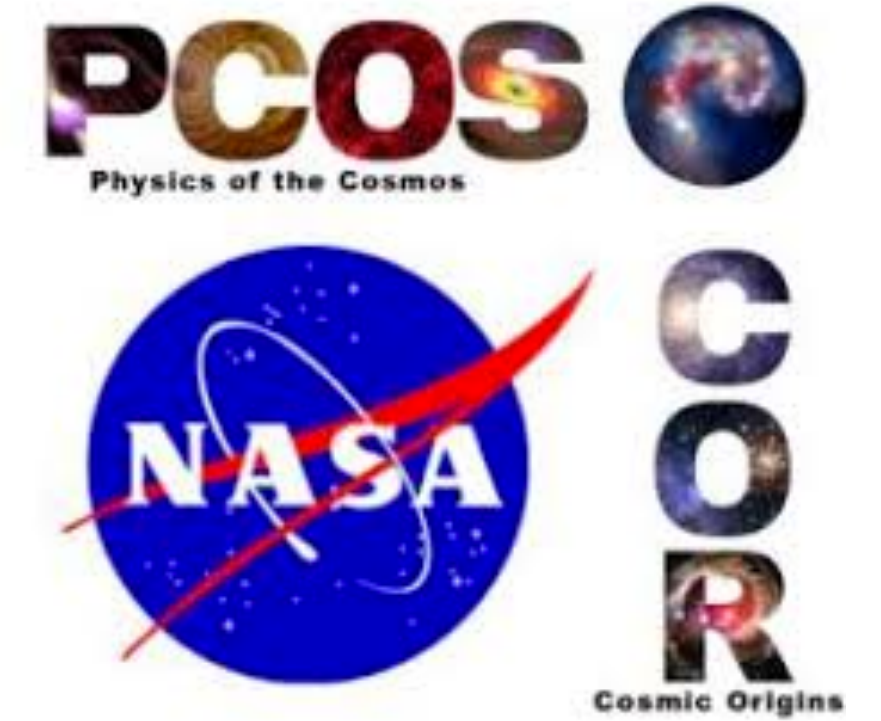


Highlights in X-ray Astronomy

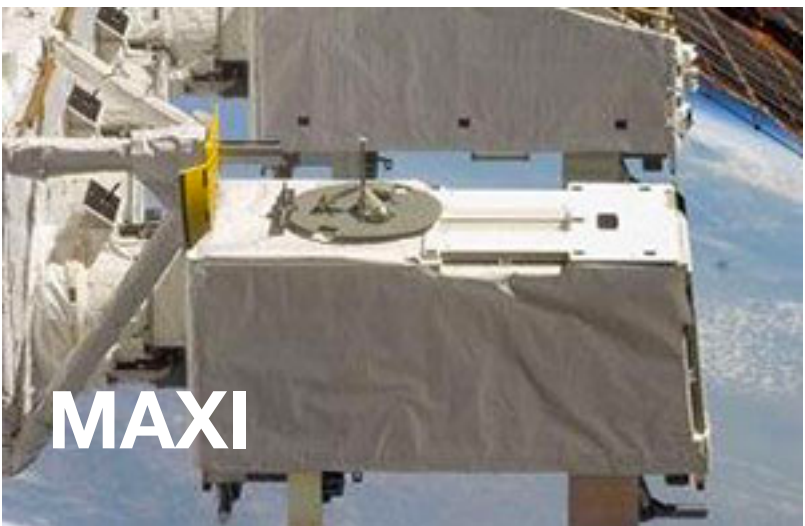
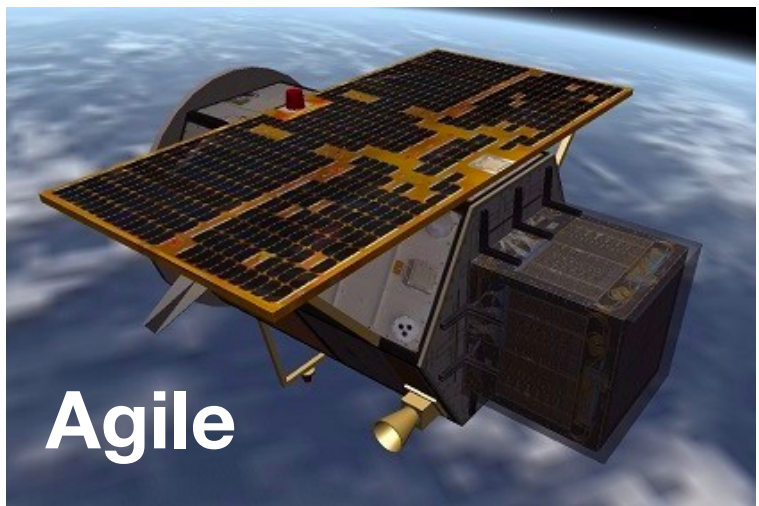
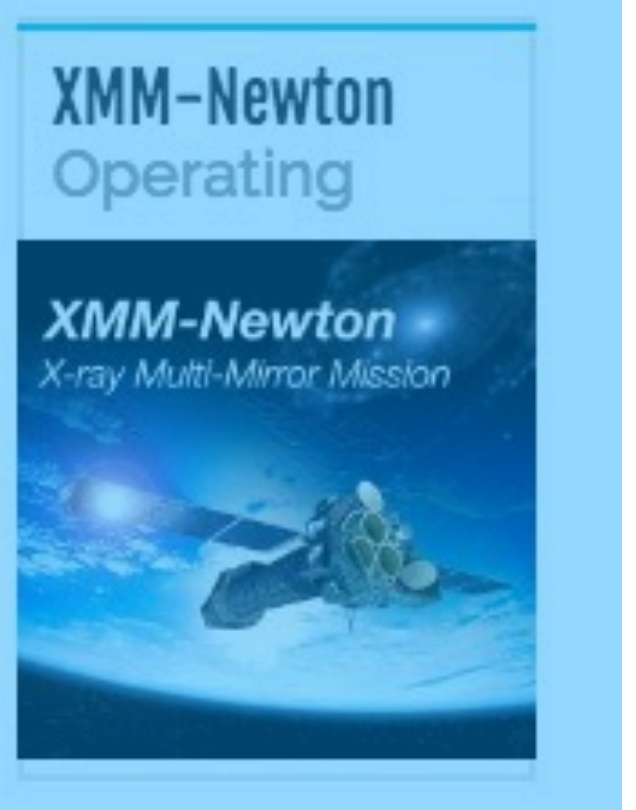
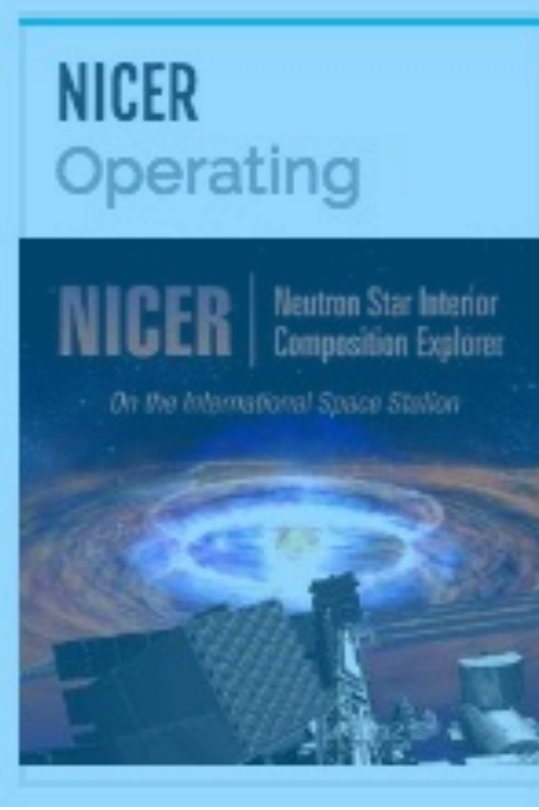
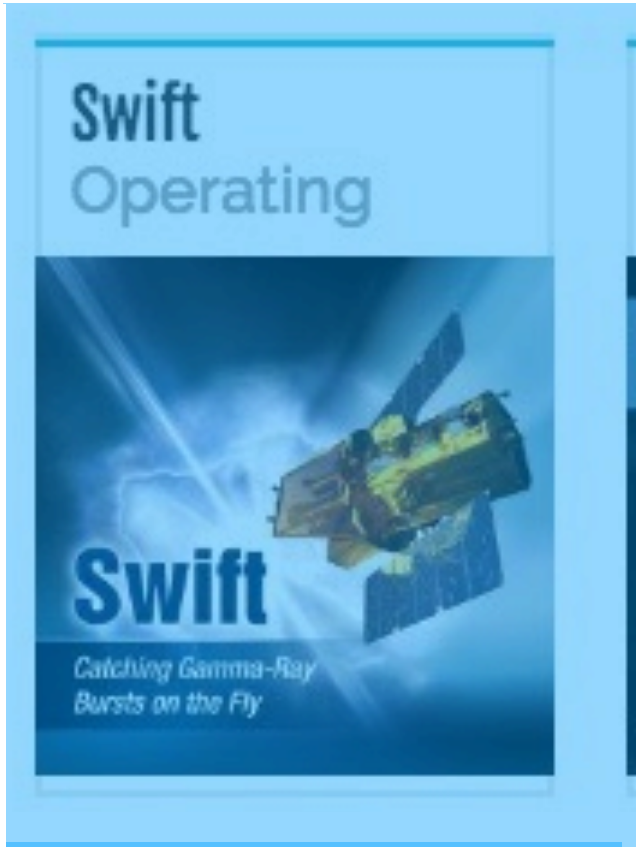
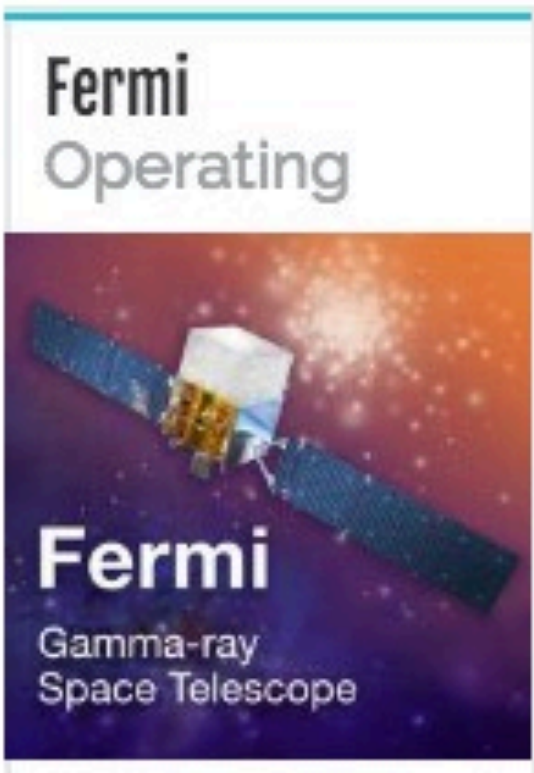
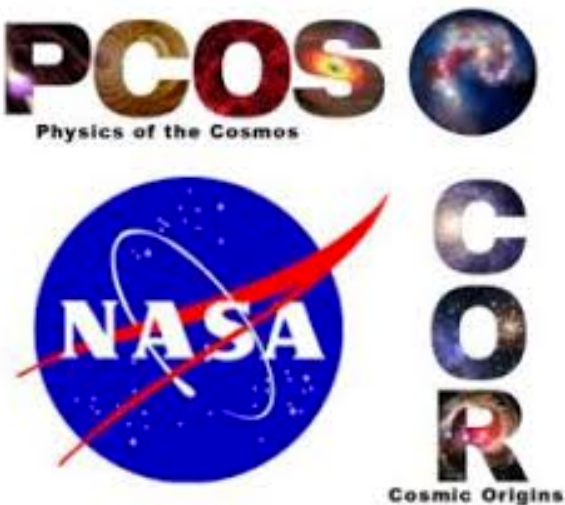


Ryan Hickox
Dartmouth College
ryan.c.hickox@dartmouth.edu

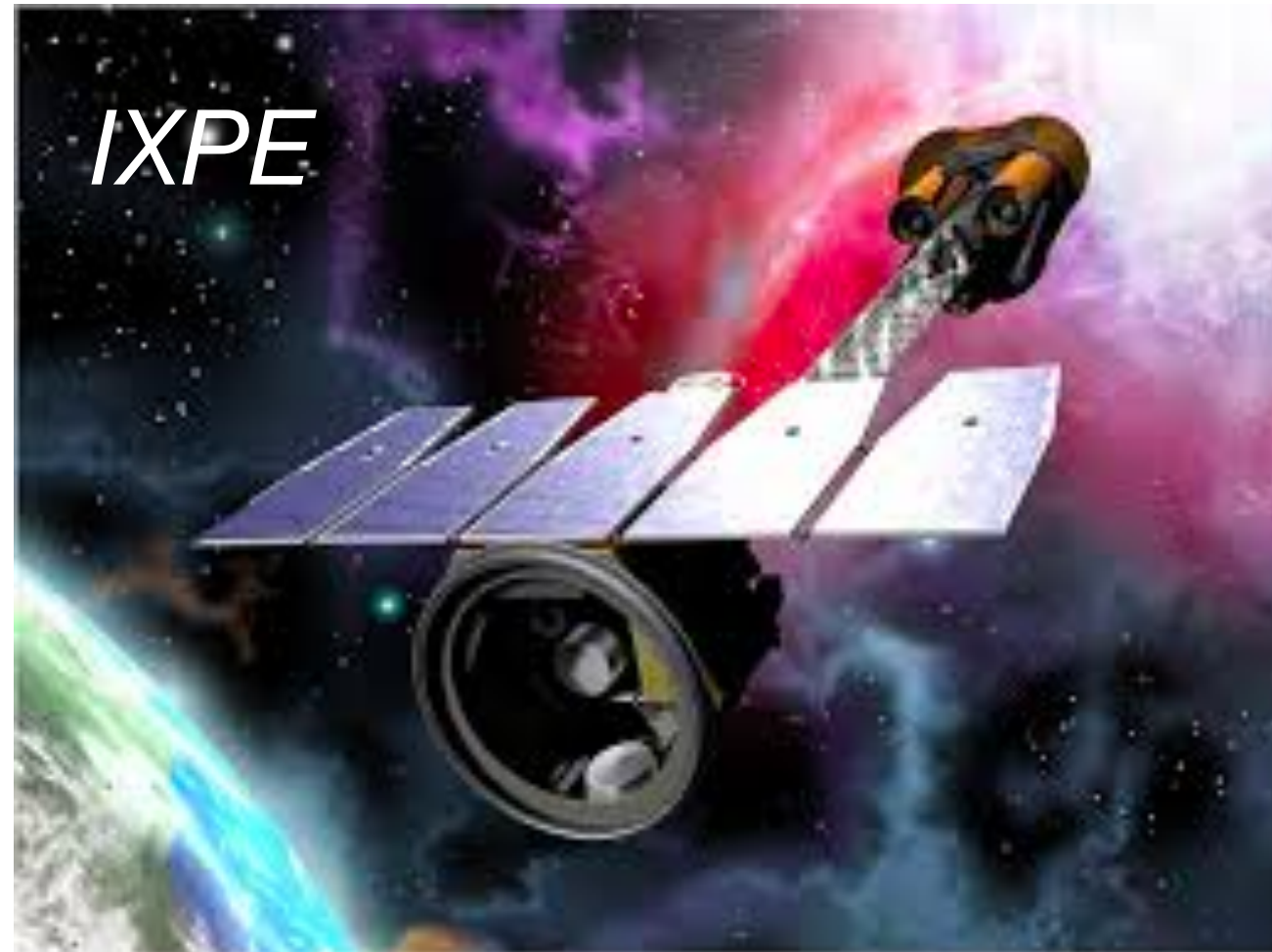
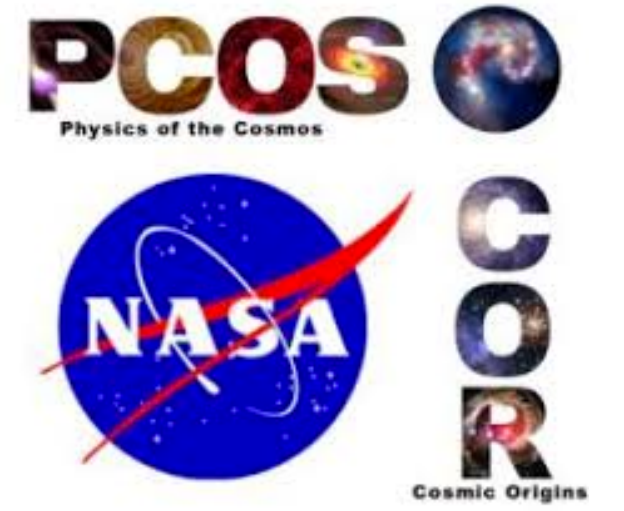
PhysPAG Chair (incoming)
X-ray Science Interest Group Co-Chair

PhysPAG Splinter Session
AAS Annual Meeting
11 January 2021

Current X-ray space missions



Upcoming X-ray space missions



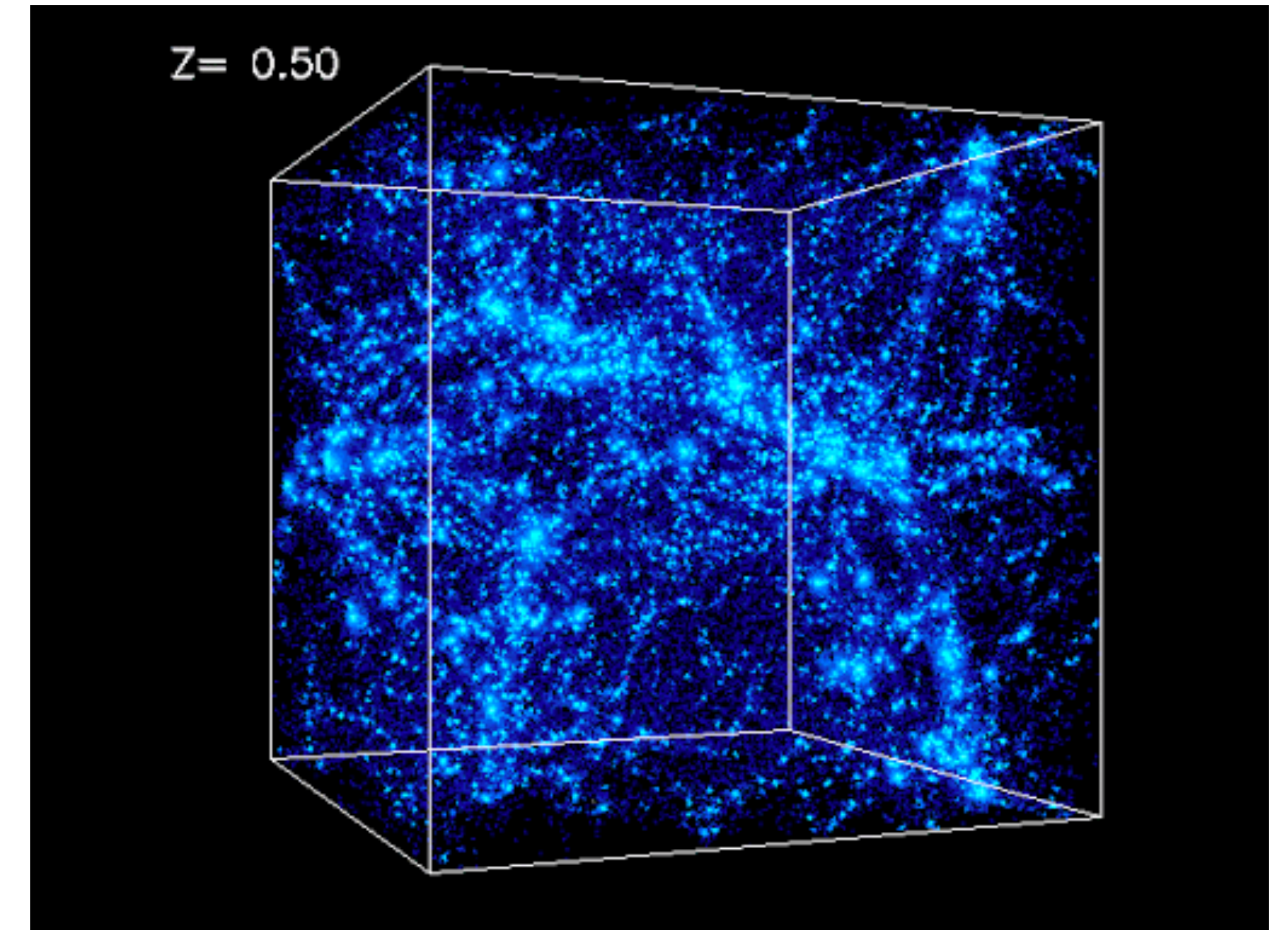
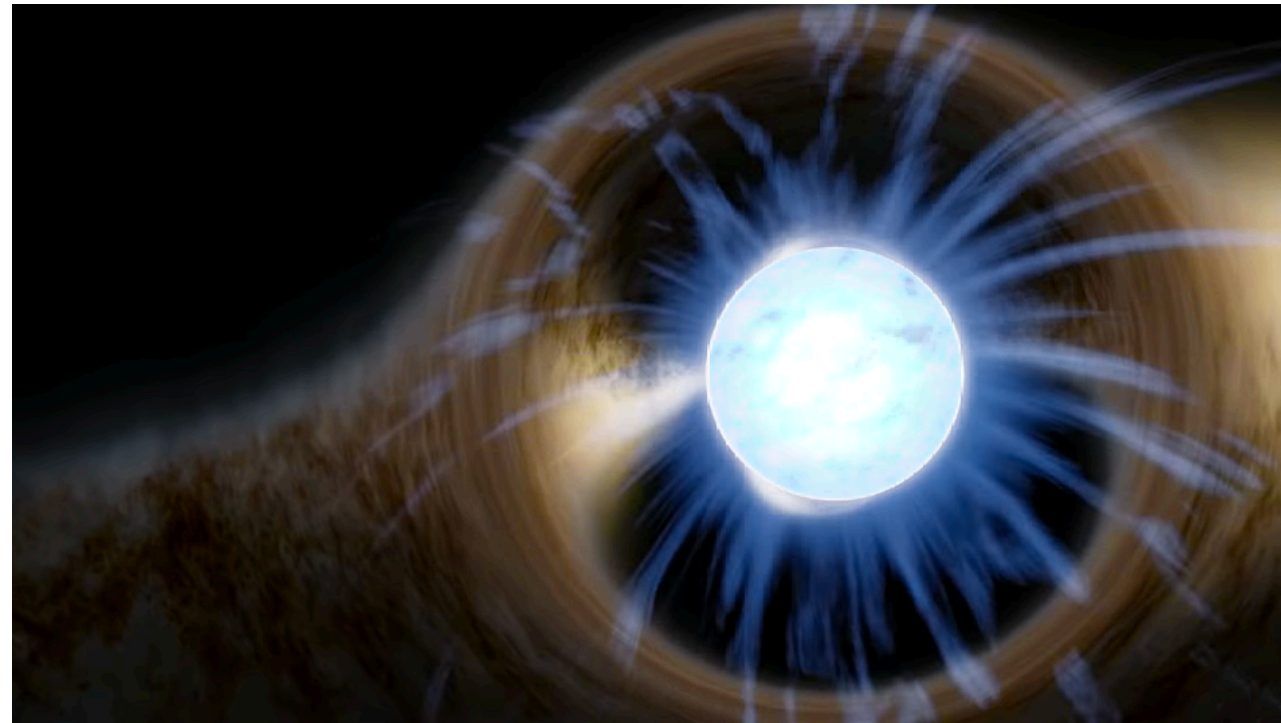
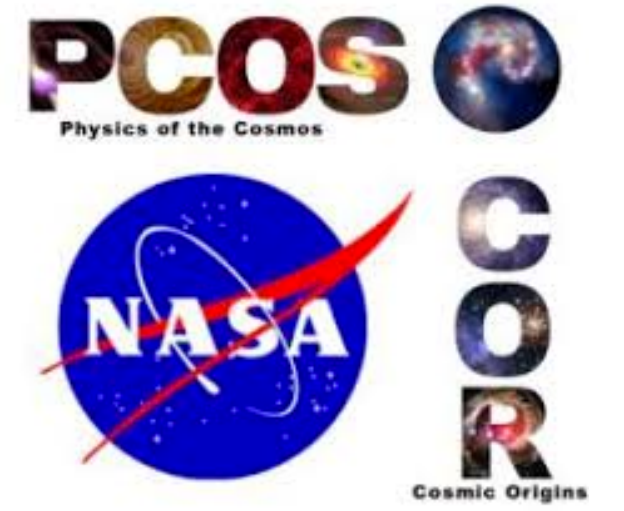
ATHENA:



See the **X-ray SIG** splinter session
Wednesday 6:50-8:20pm EST



Science outline



← Start New Search

4,167 results

Collection
+astronomy

A **very incomplete** view of
exciting X-ray results in
astronomy from the past year.

Galactic astronomy / compact objects

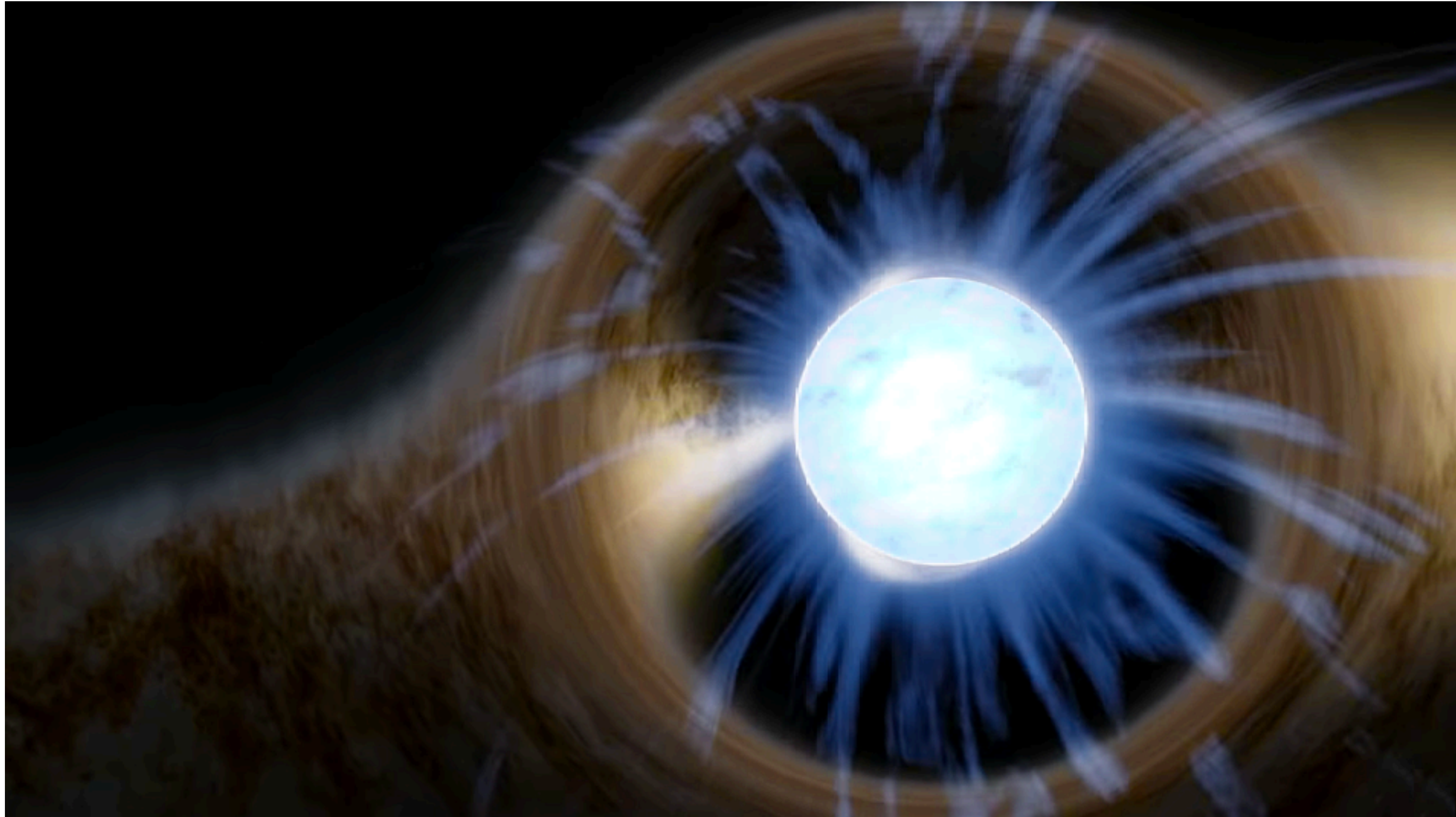
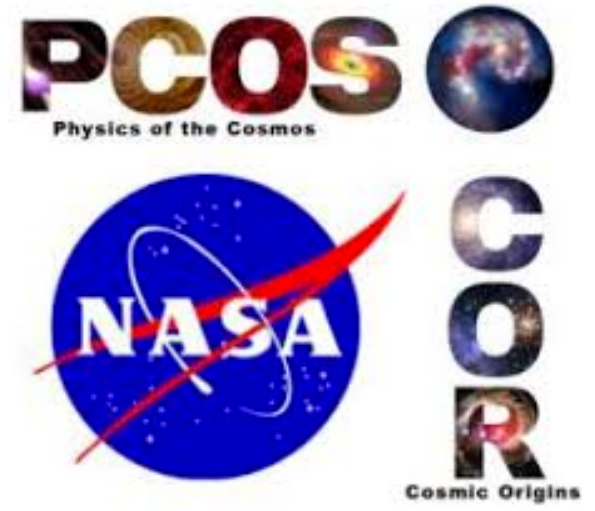
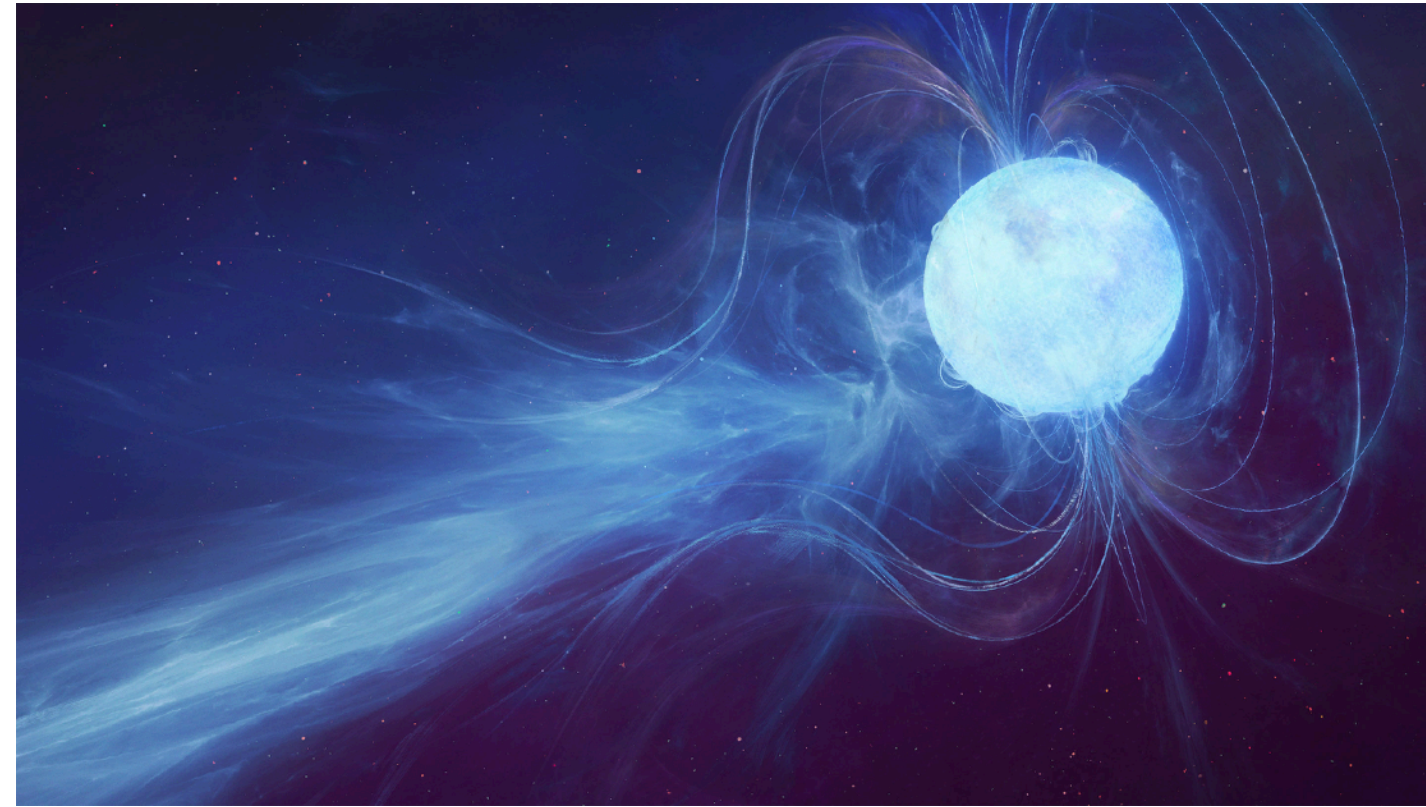
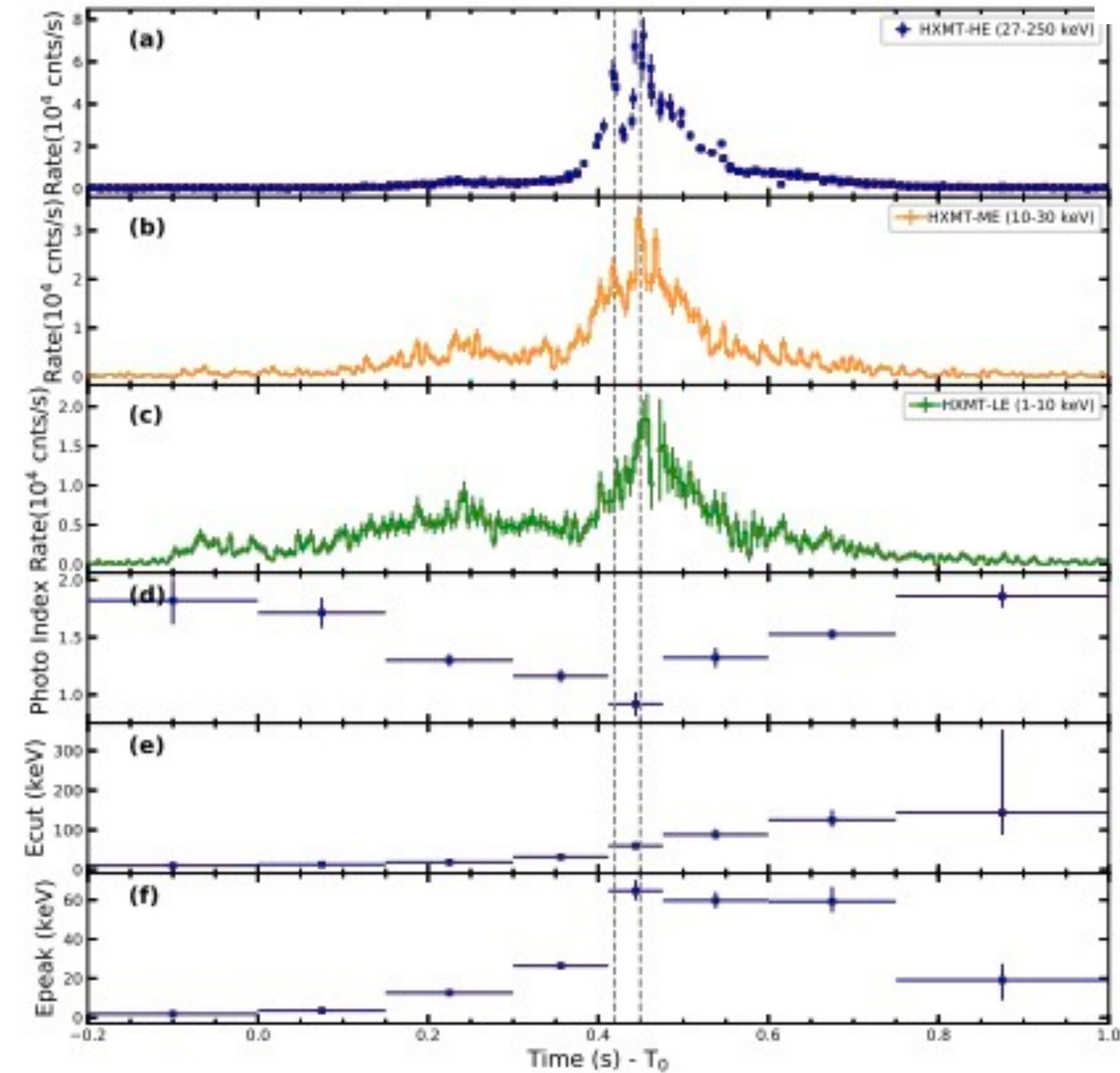
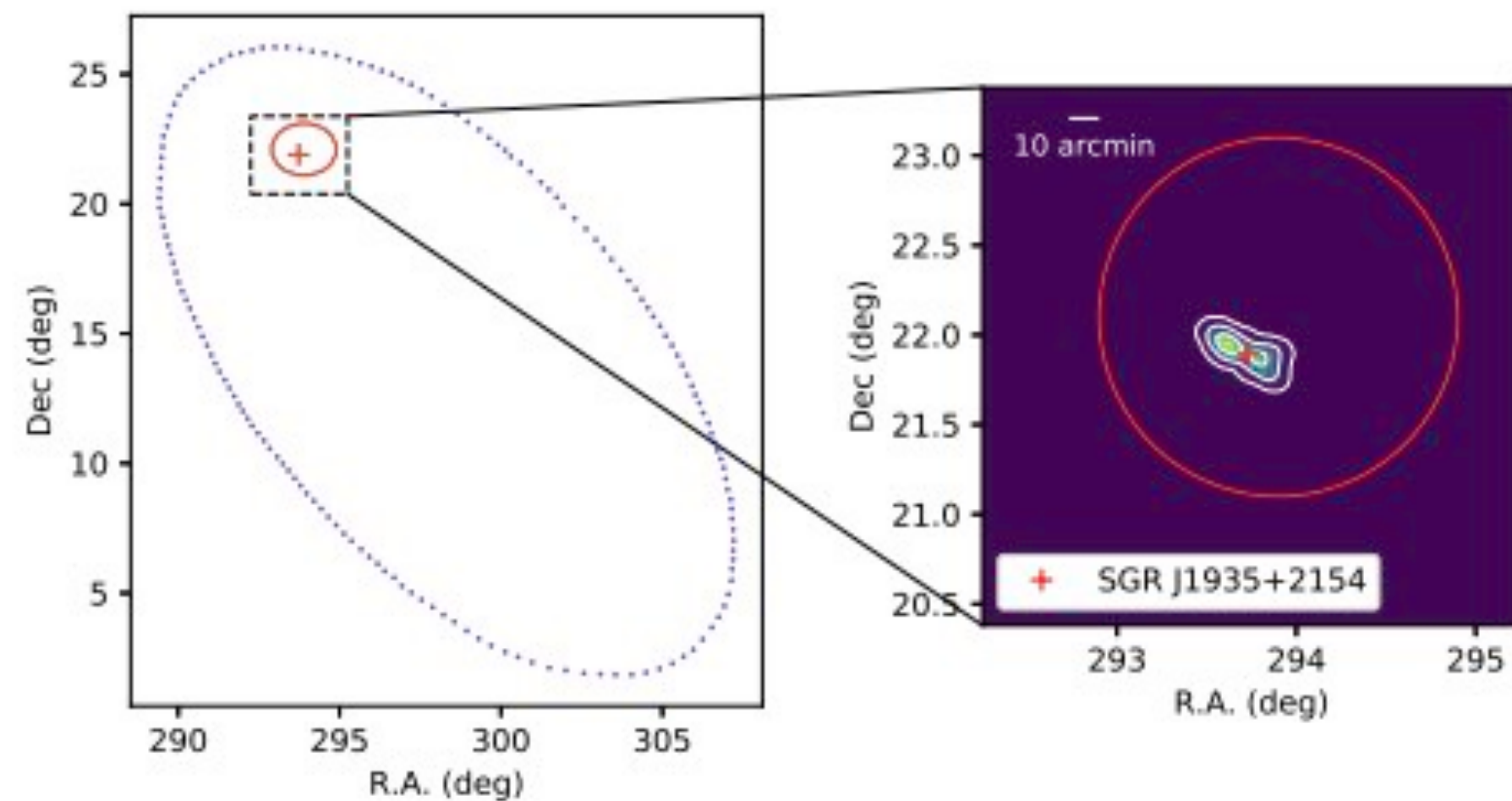


Image courtesy NASA

X-ray emission from a magnetar fast radio burst

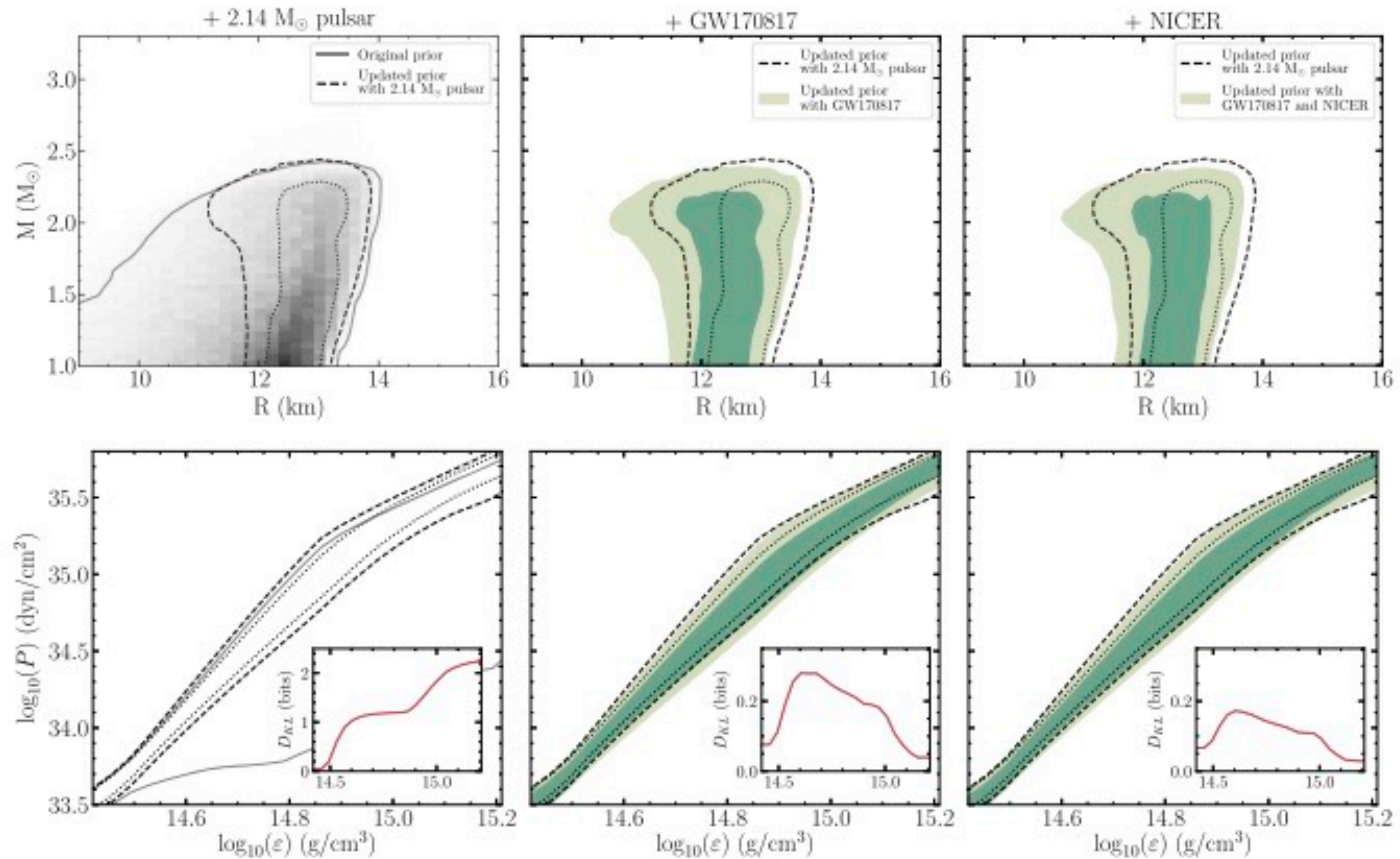


FRB 200428;
SGR
1935+2154



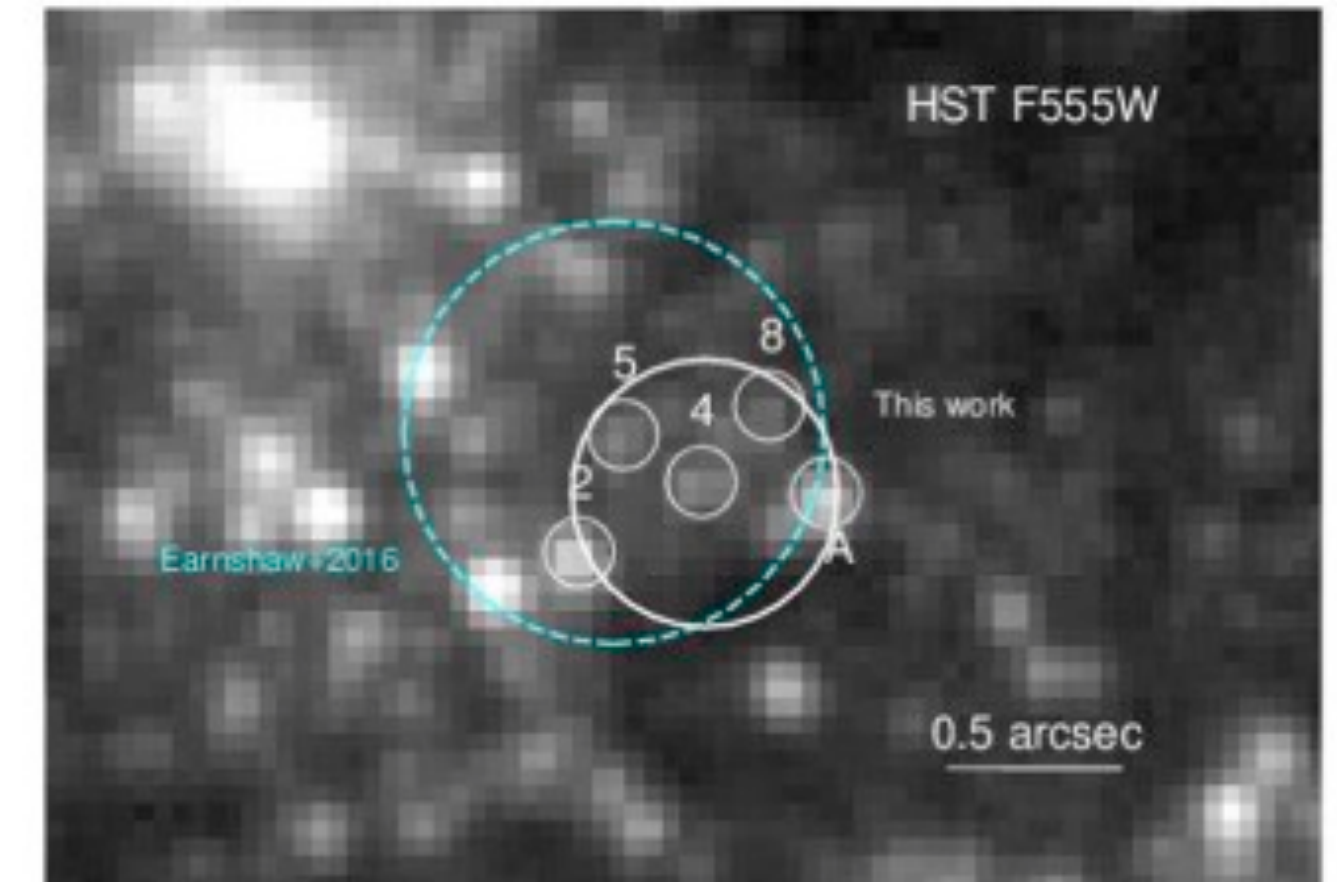
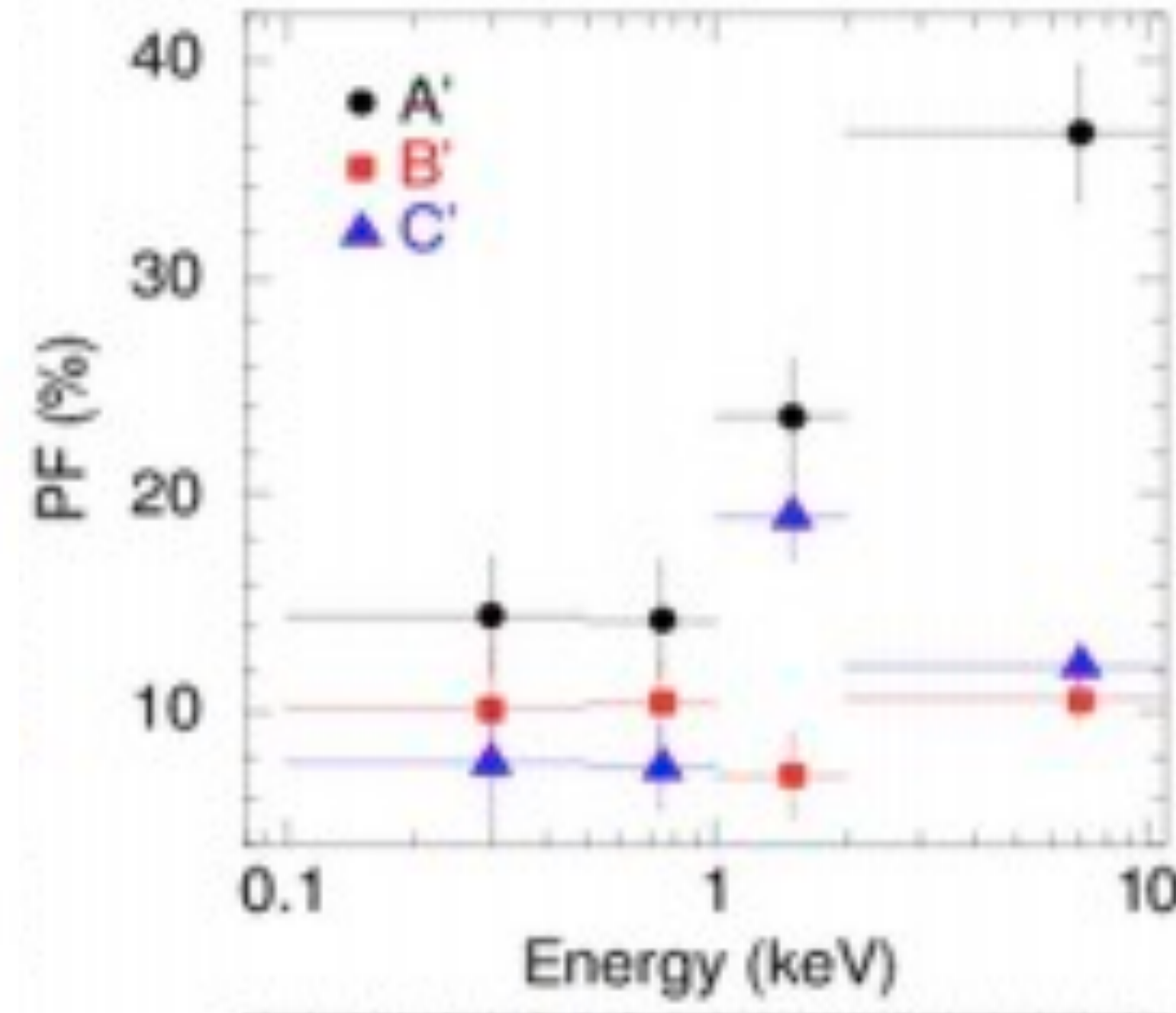
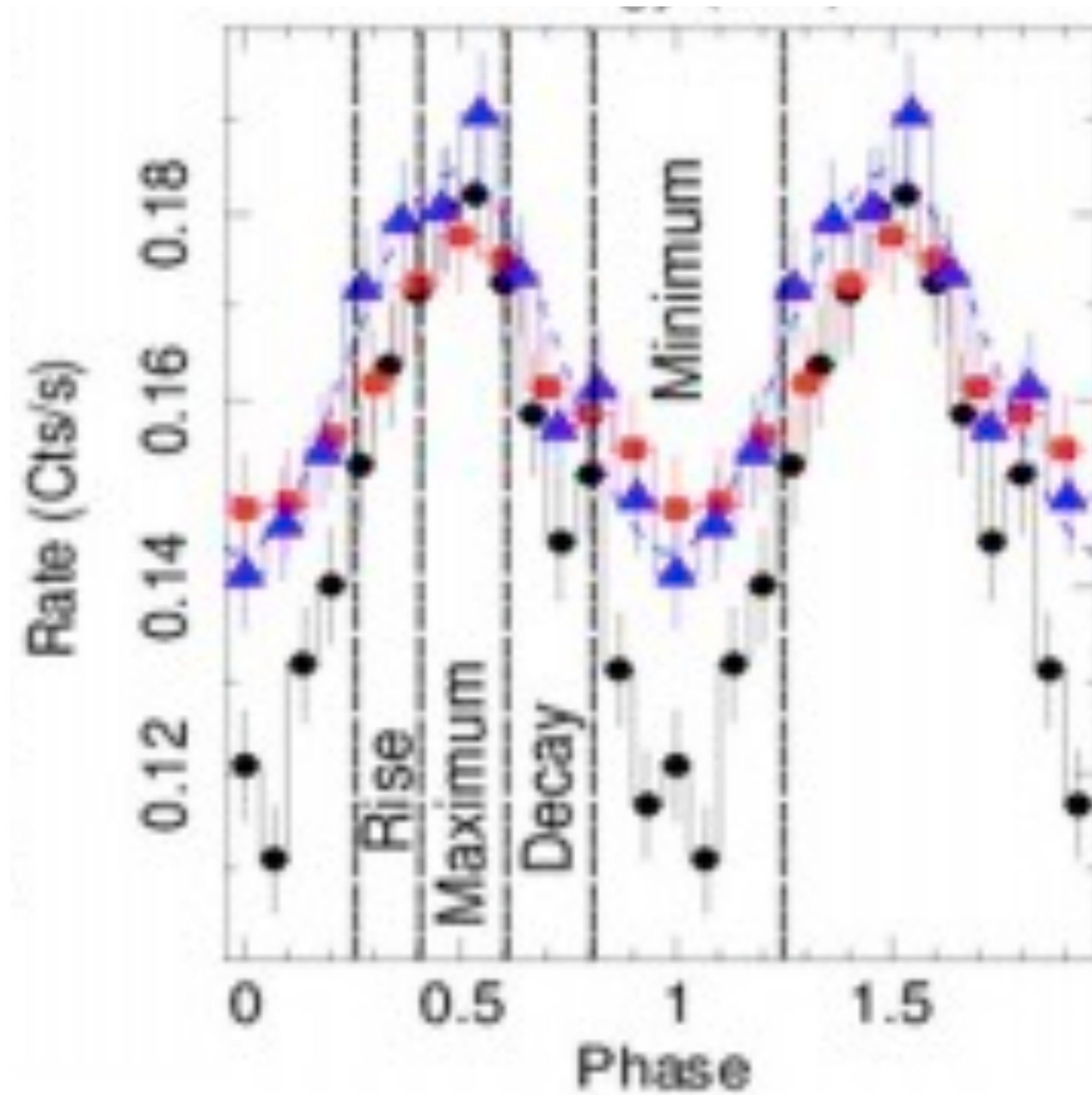
Li et al. (2020), see also e.g., Mereghetti et al. 2020; Ridnaia et al. (2020); Tavani et al. (2020), as well as Scholz et al. (2020)

Further constraints on the NS EOS from NICER



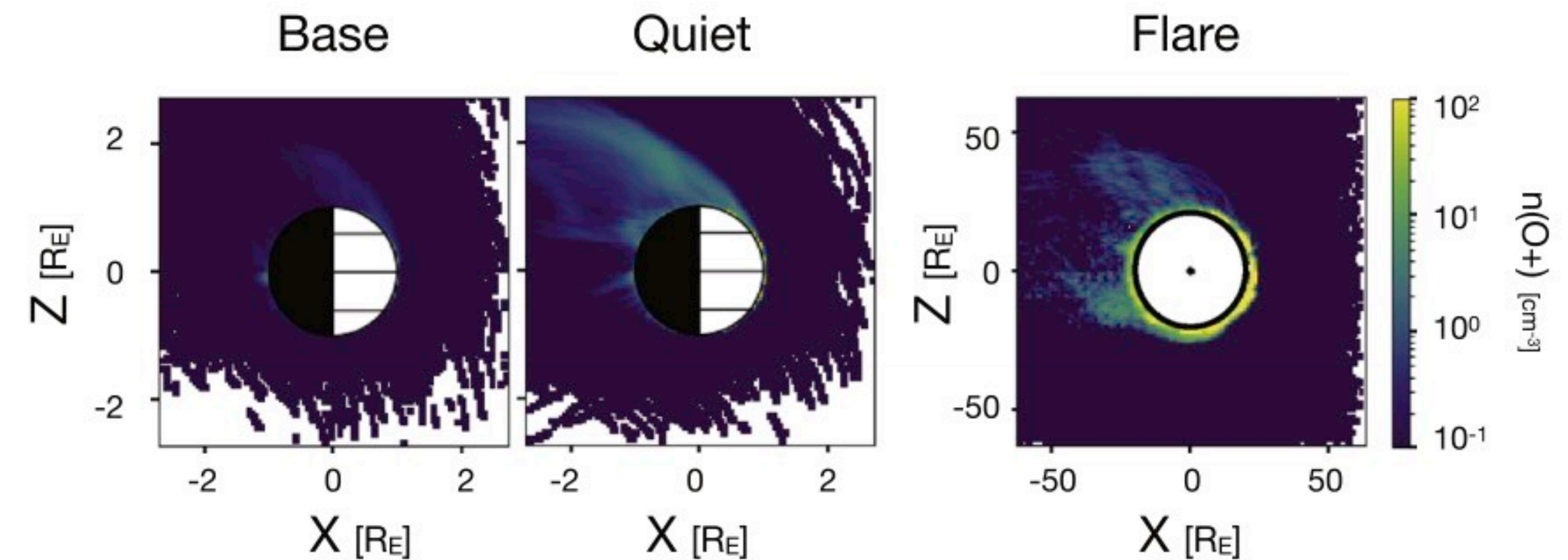
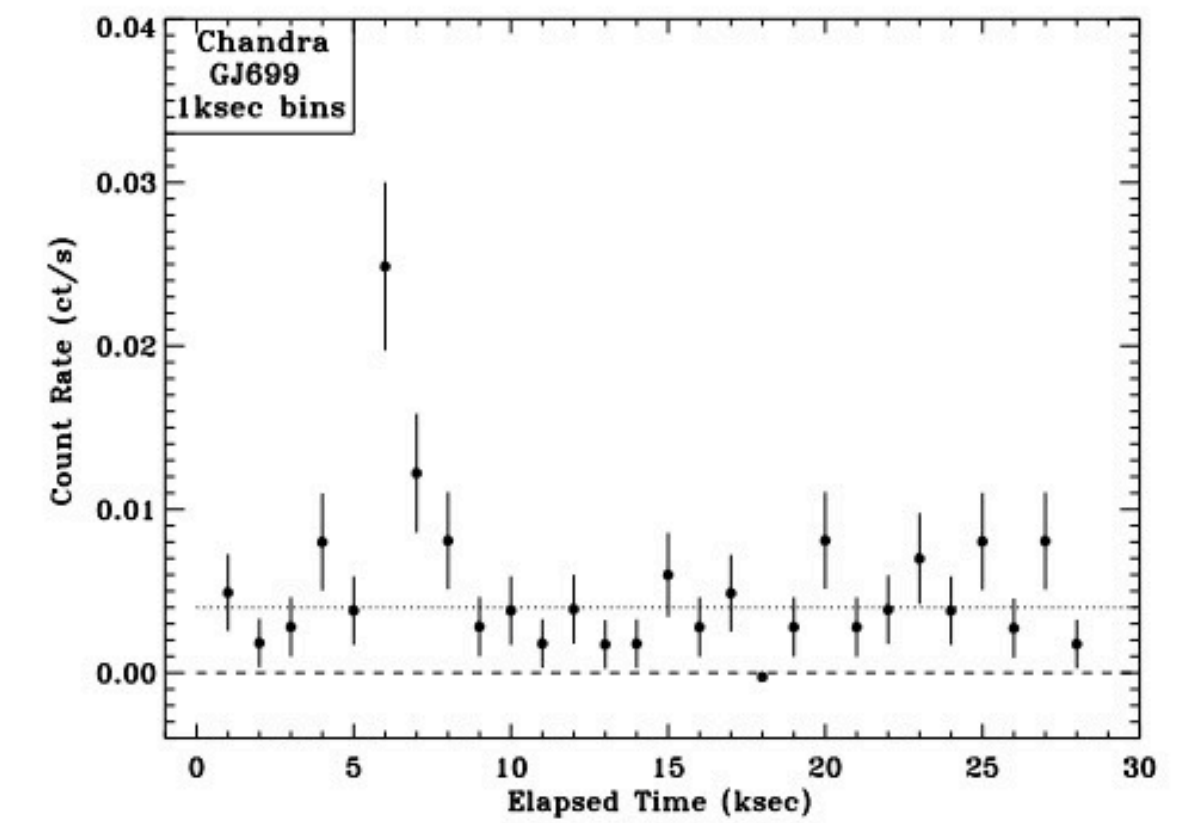
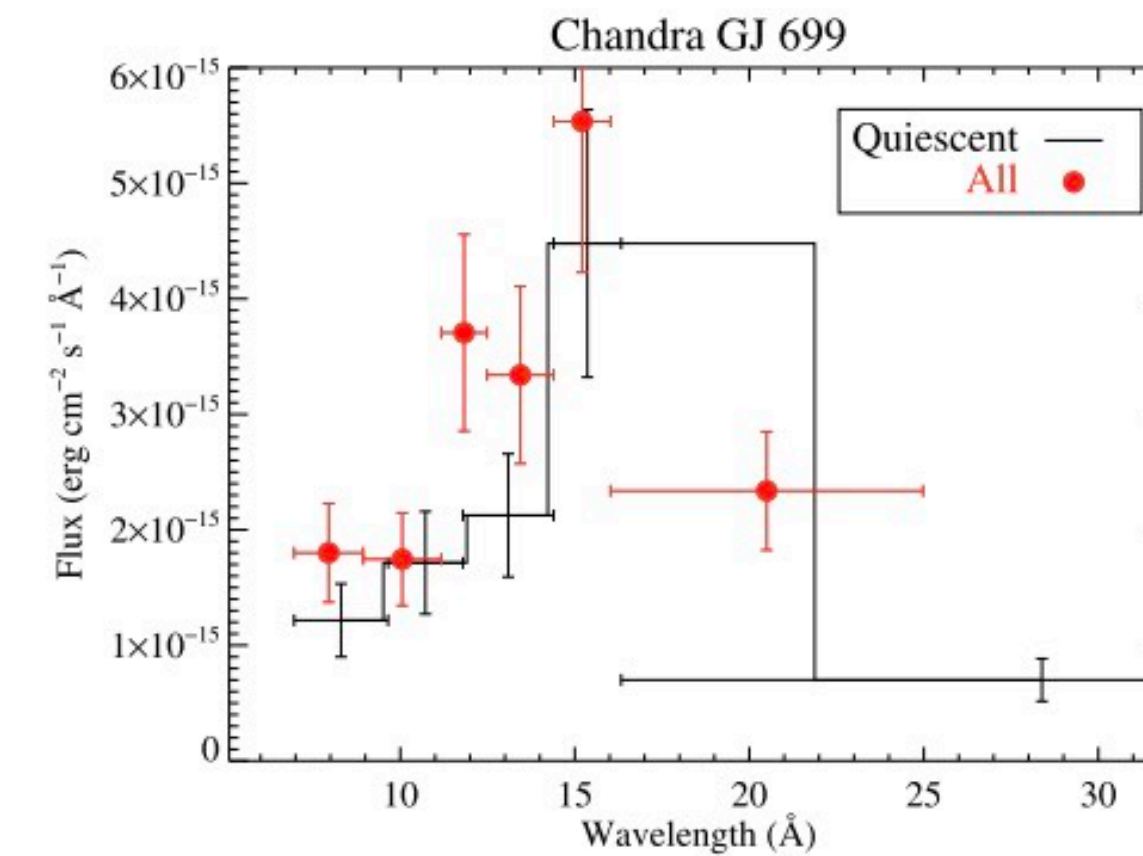
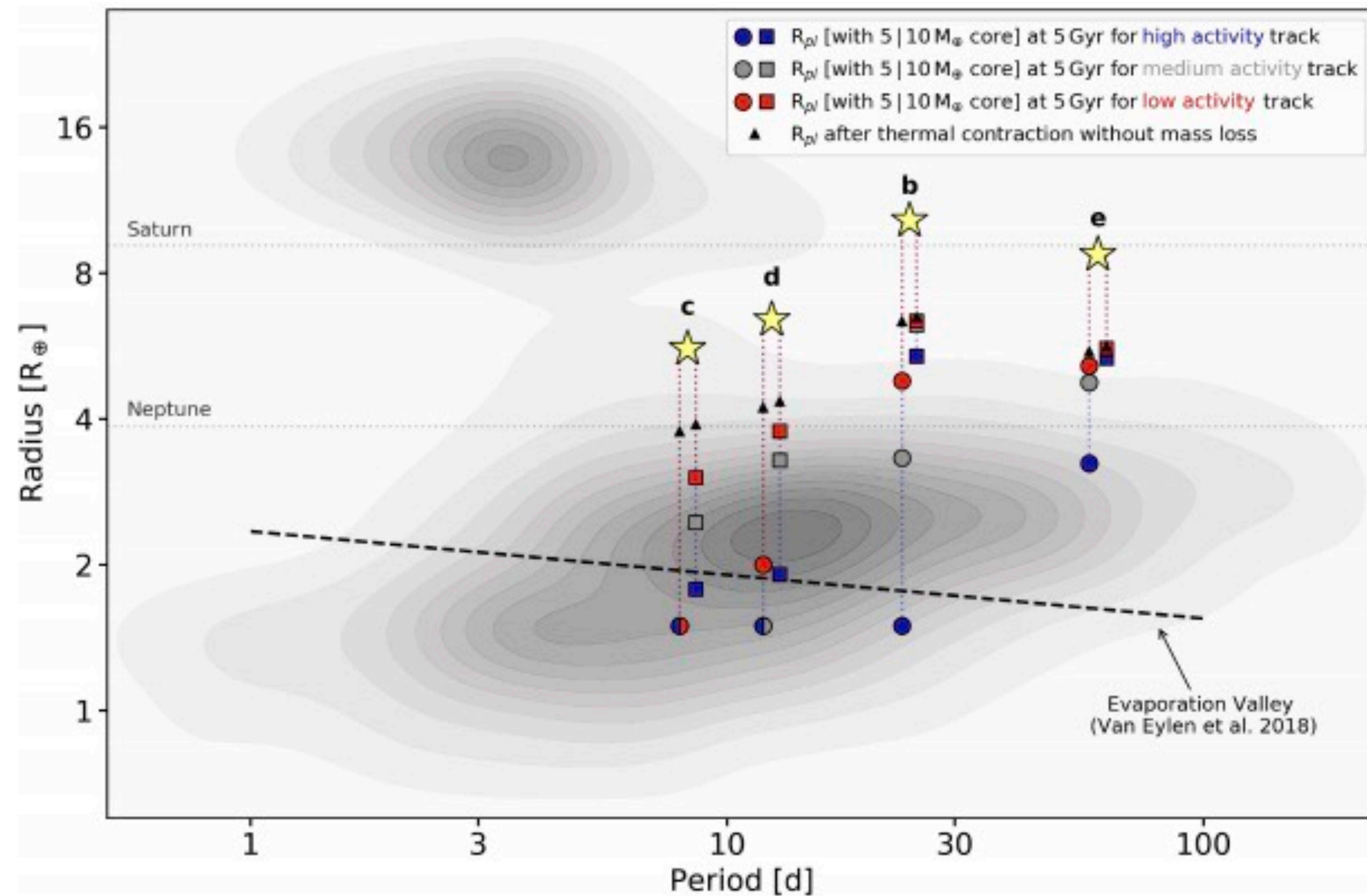
NICER/LIGO/Radio; Raaijmakers et al. (2020)

A new ULX pulsar in M51



XMM: Rodriguez Castillo et al. (2020)

Effects of X-ray irradiation on exoplanets



Chandra/ROSAT: Poppenhaeger et al. (2021)

Chandra: France et al. (2020)

The Milky Way and nearby galaxies

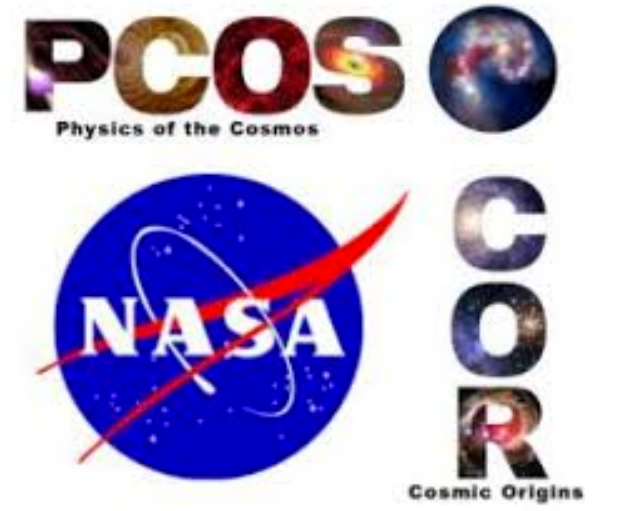
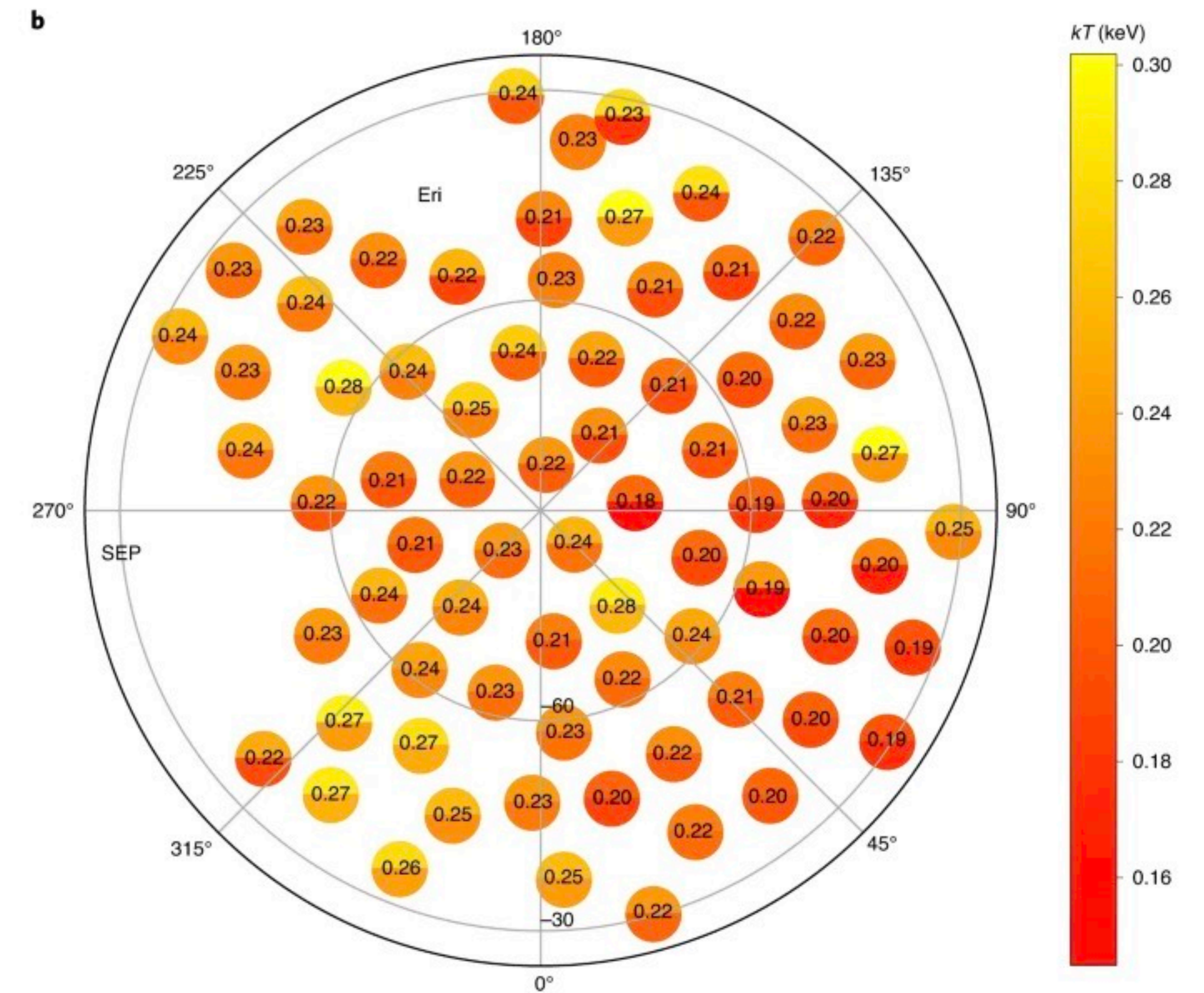
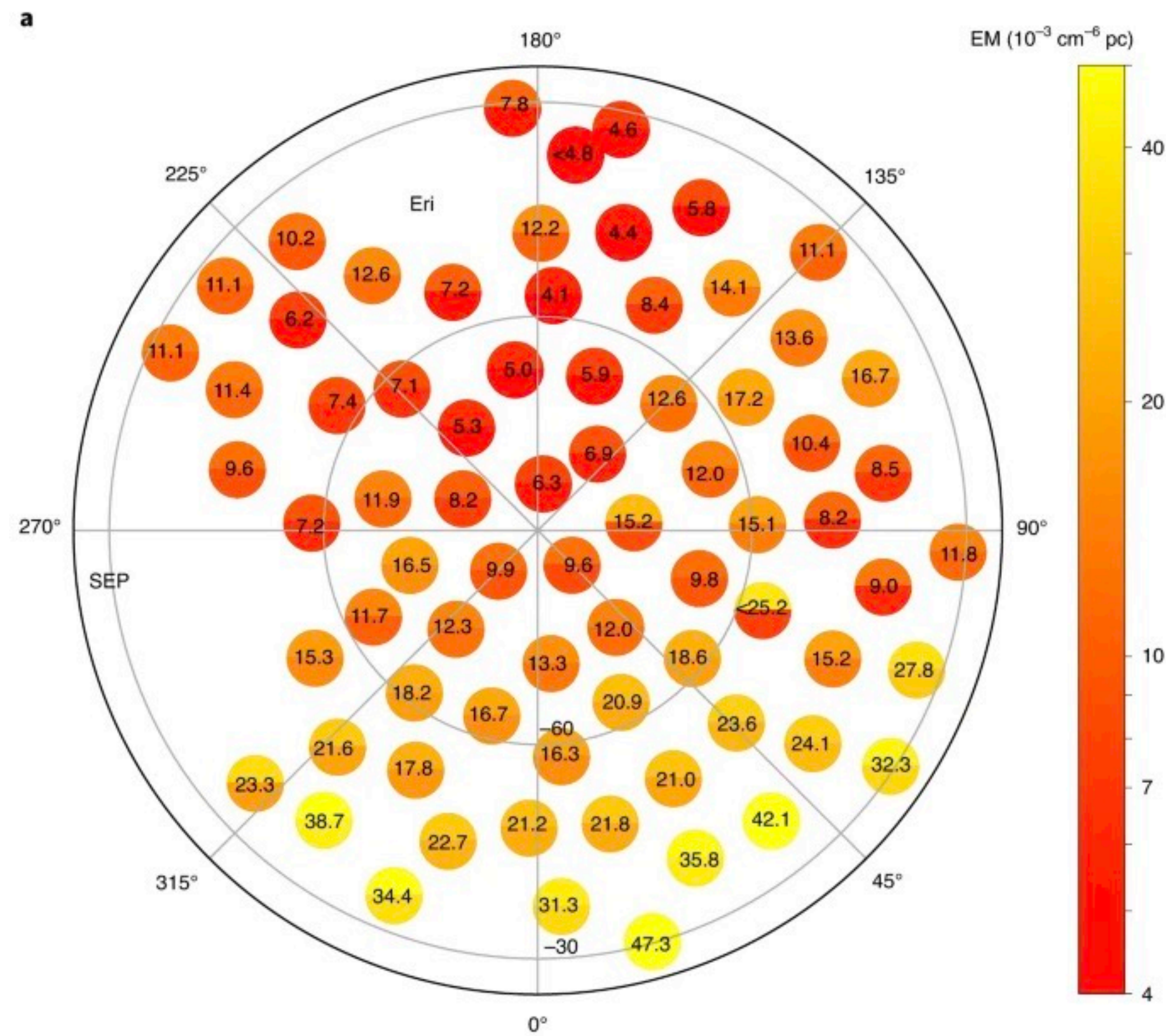


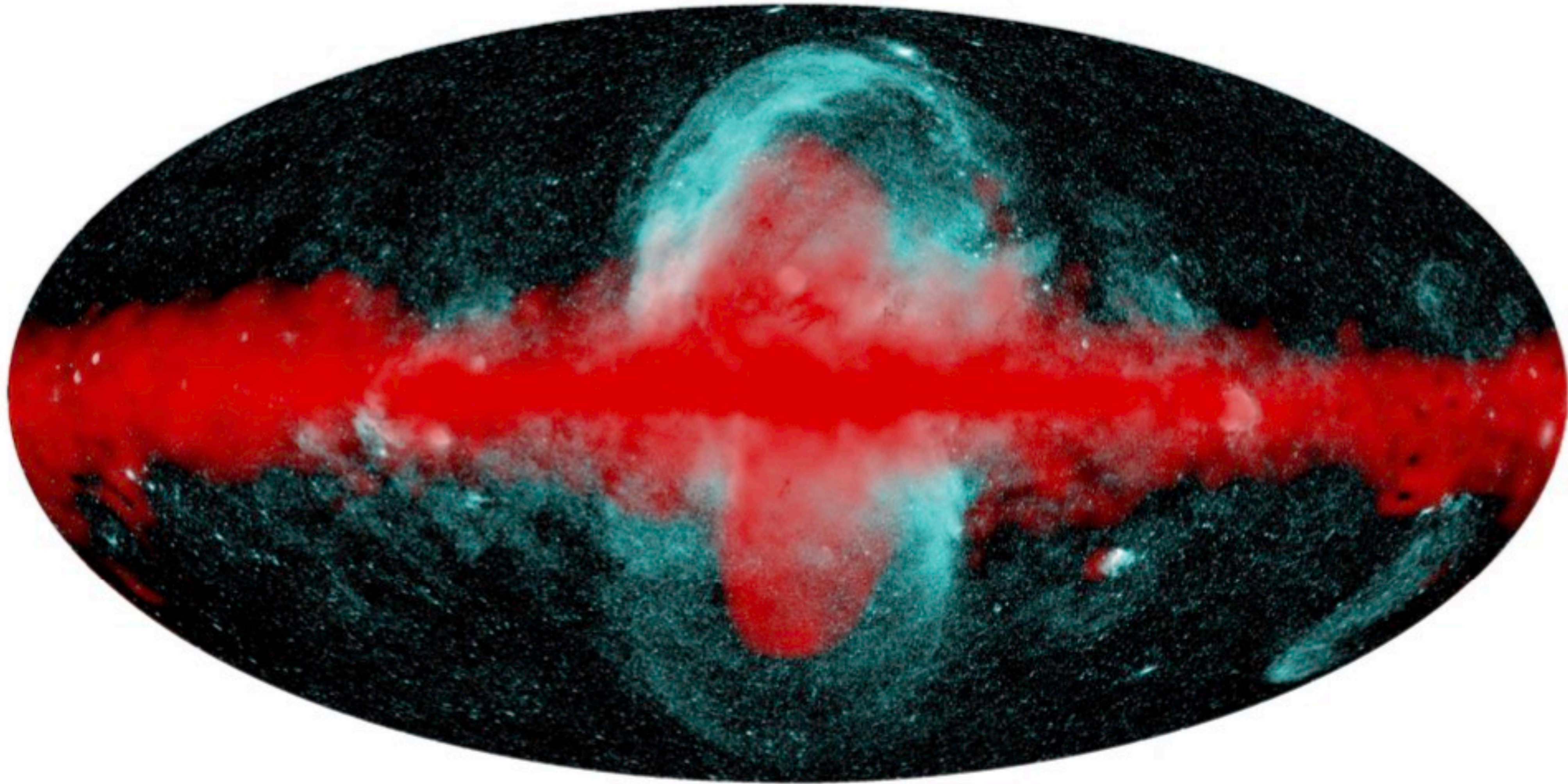
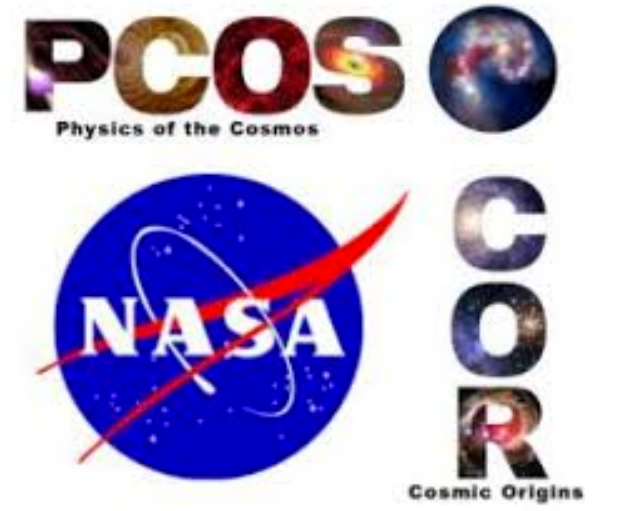
Image courtesy NASA

A disk-dominated and clumpy CGM in X-rays



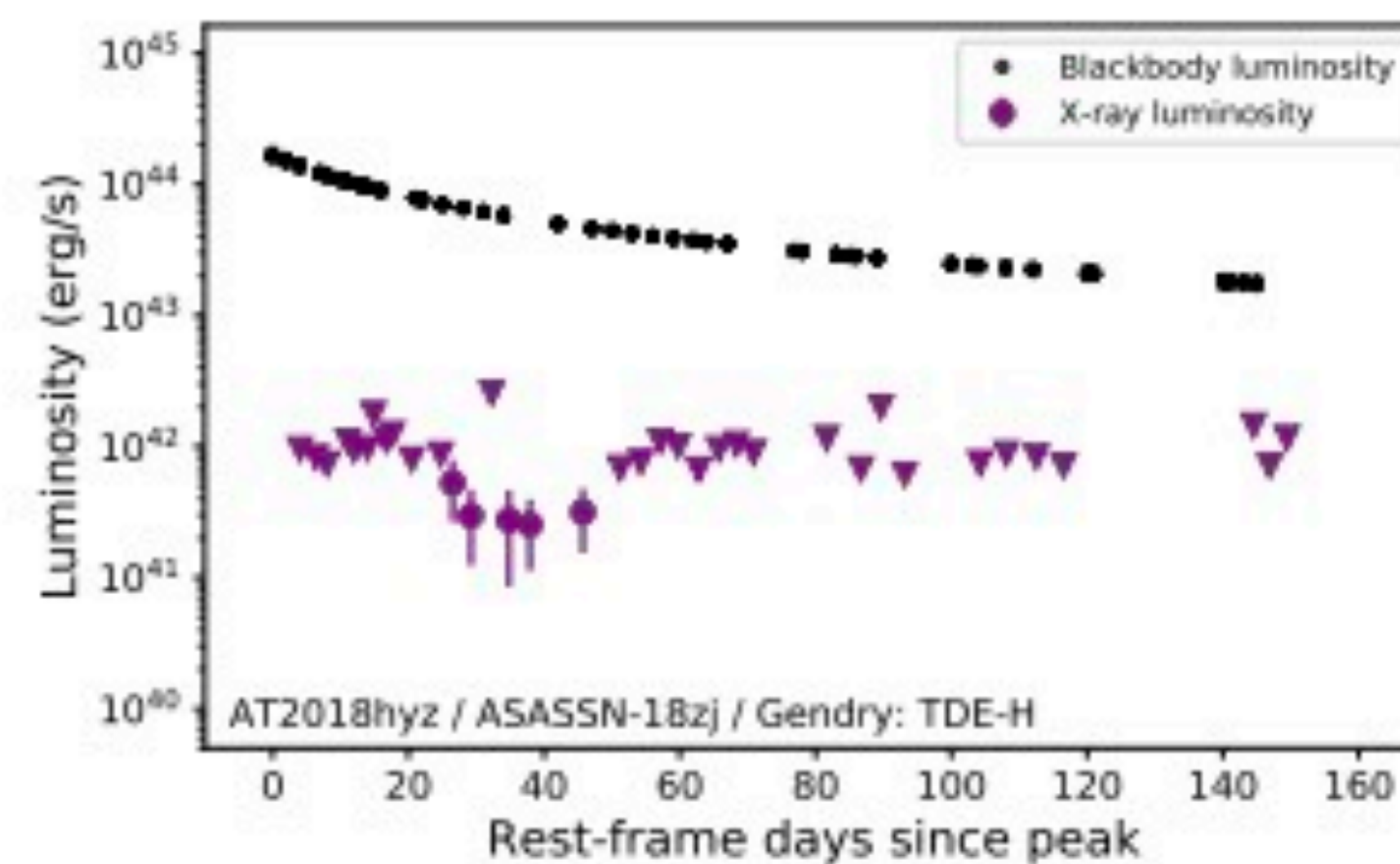
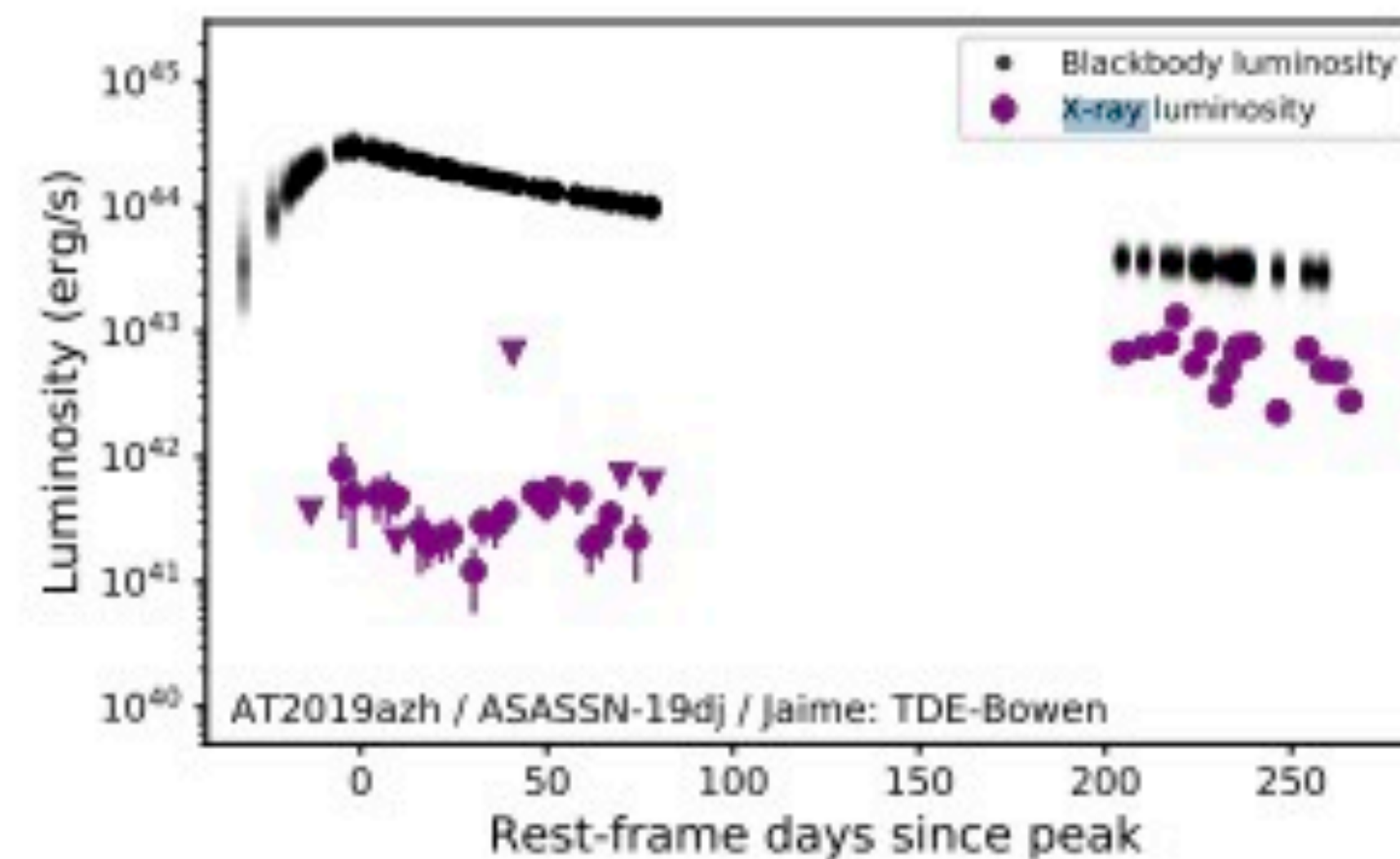
Halosat: Kaaret et al. (2020)

Large-scale X-ray bubbles in the Milky Way



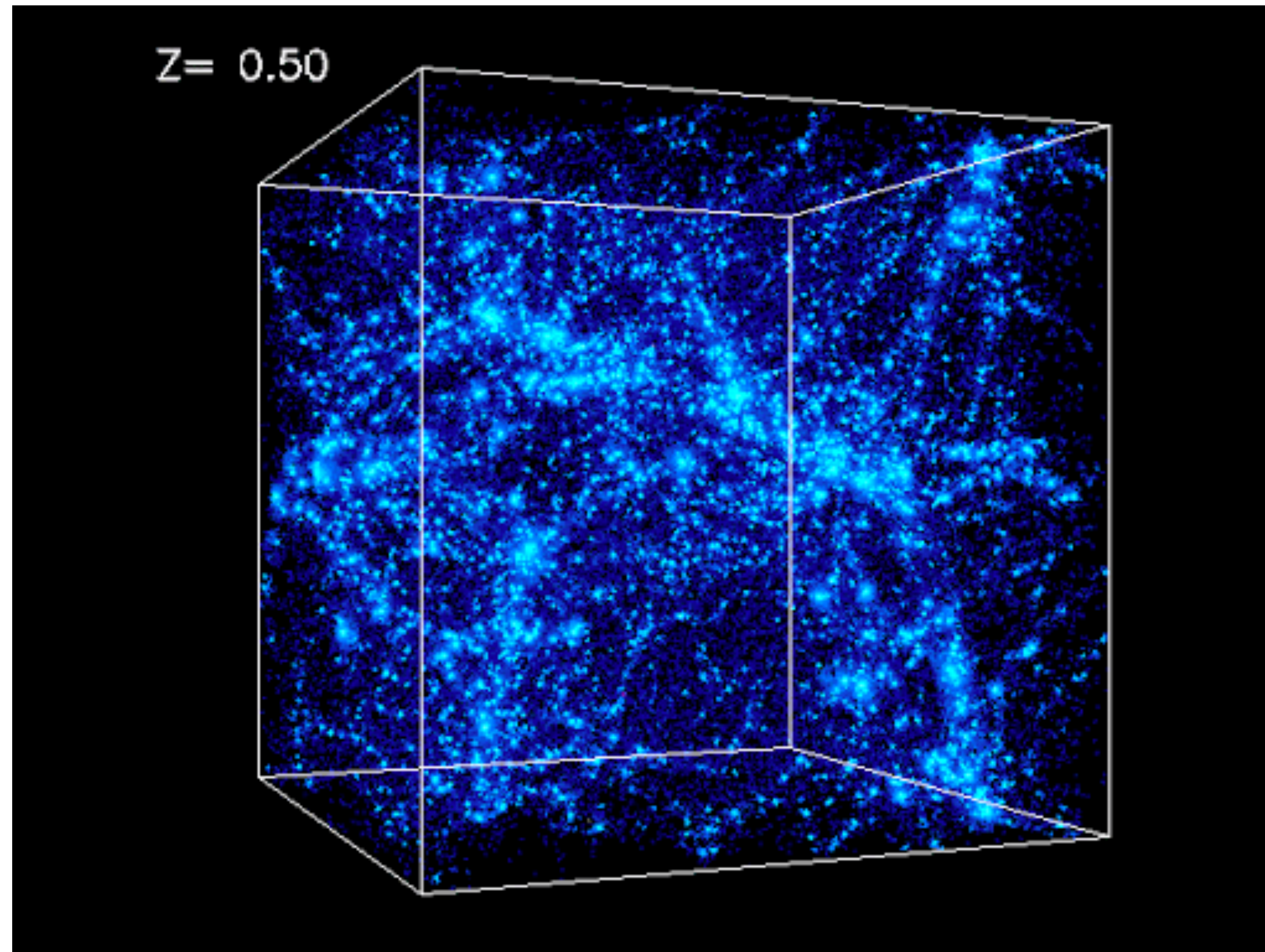
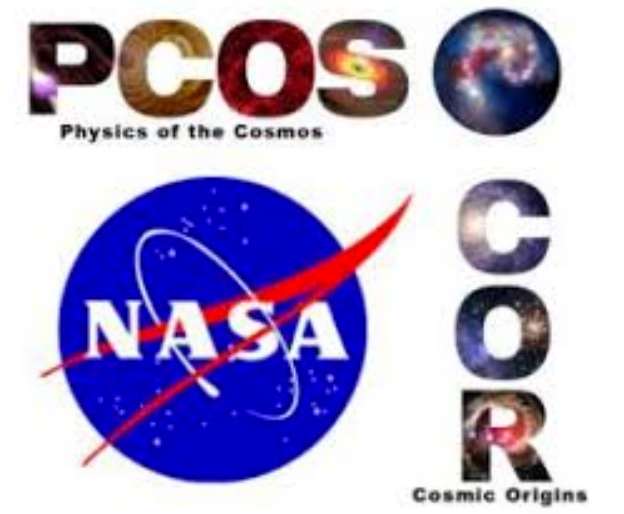
eROSITA: Predehl et al. (2020)

X-ray monitoring of tidal disruption events

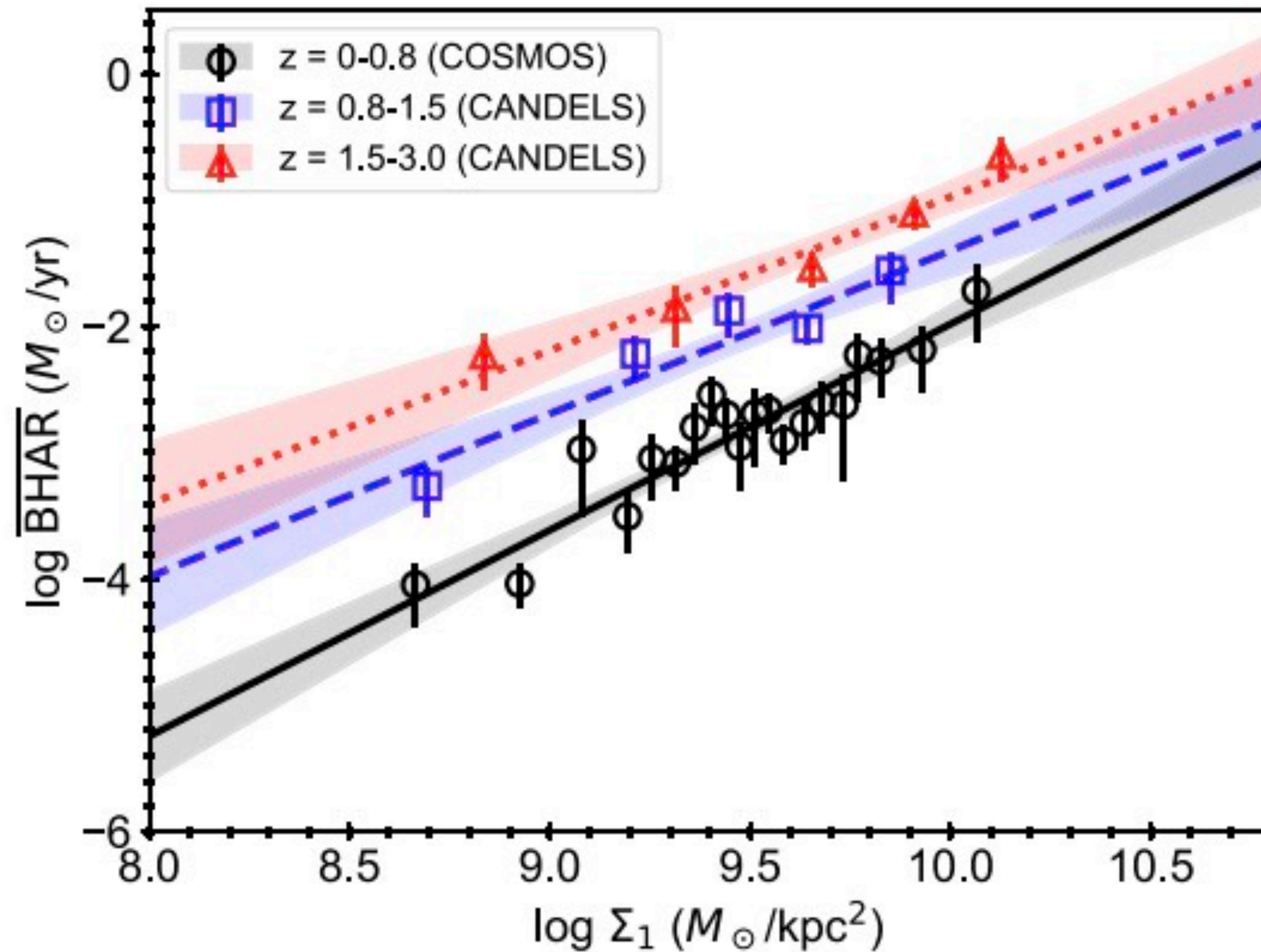


ZTF / *Swift*: van Velzen et al. (2020)

Galaxy/black hole evolution and cosmology

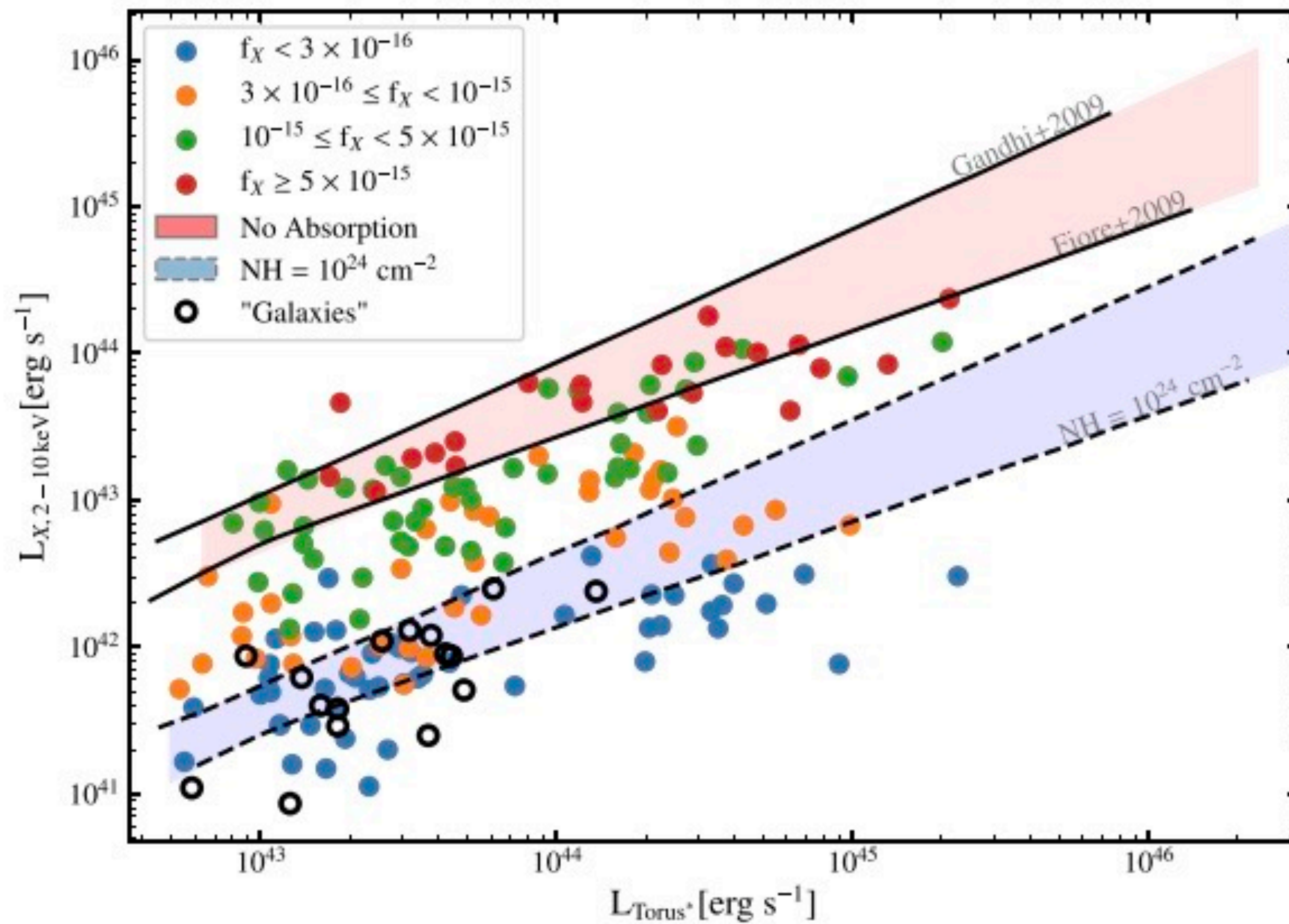


Connection between BH growth and galaxy compactness

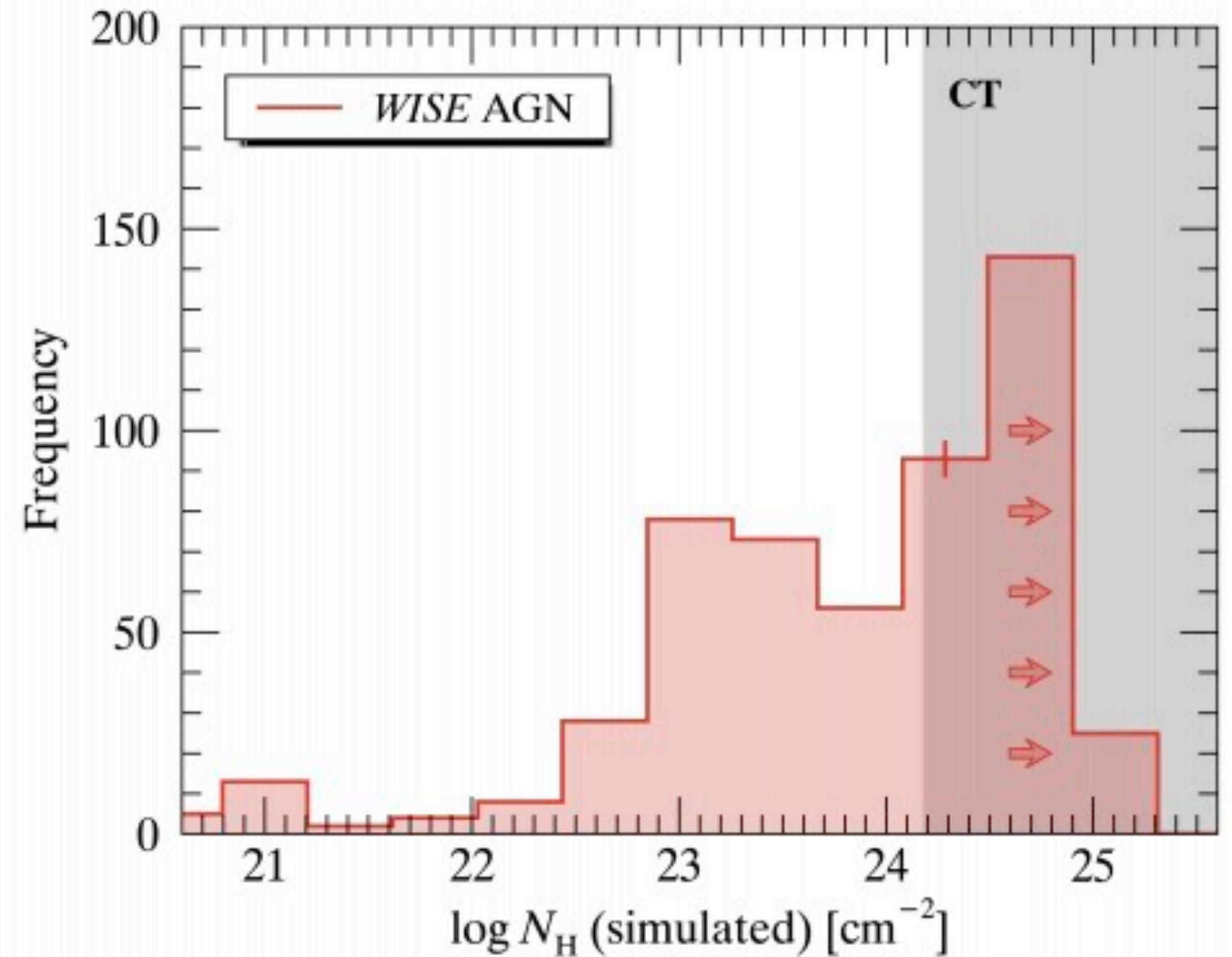


Chandra: Ni et al. (2021)

Populations of X-ray weak, heavily obscured AGN

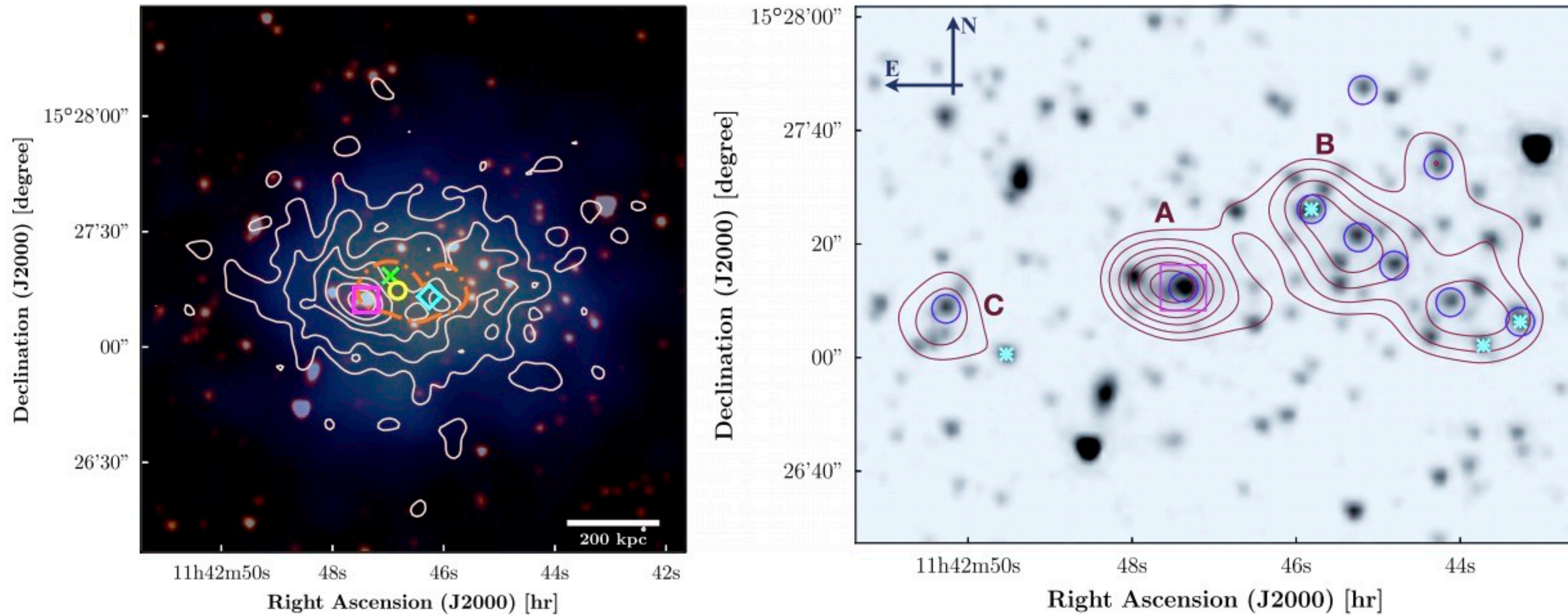


Chandra: Lambrides et al. (2020)

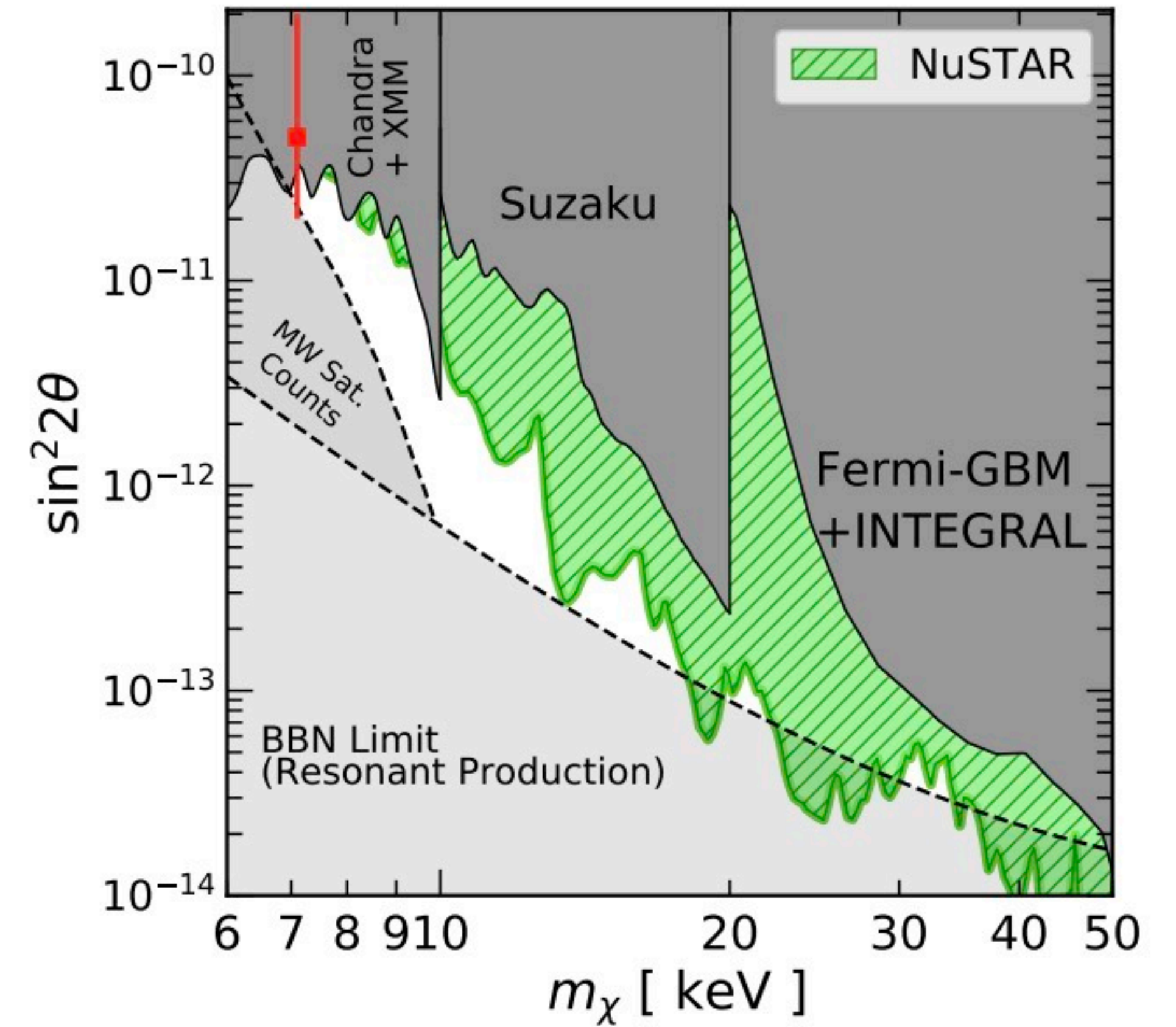
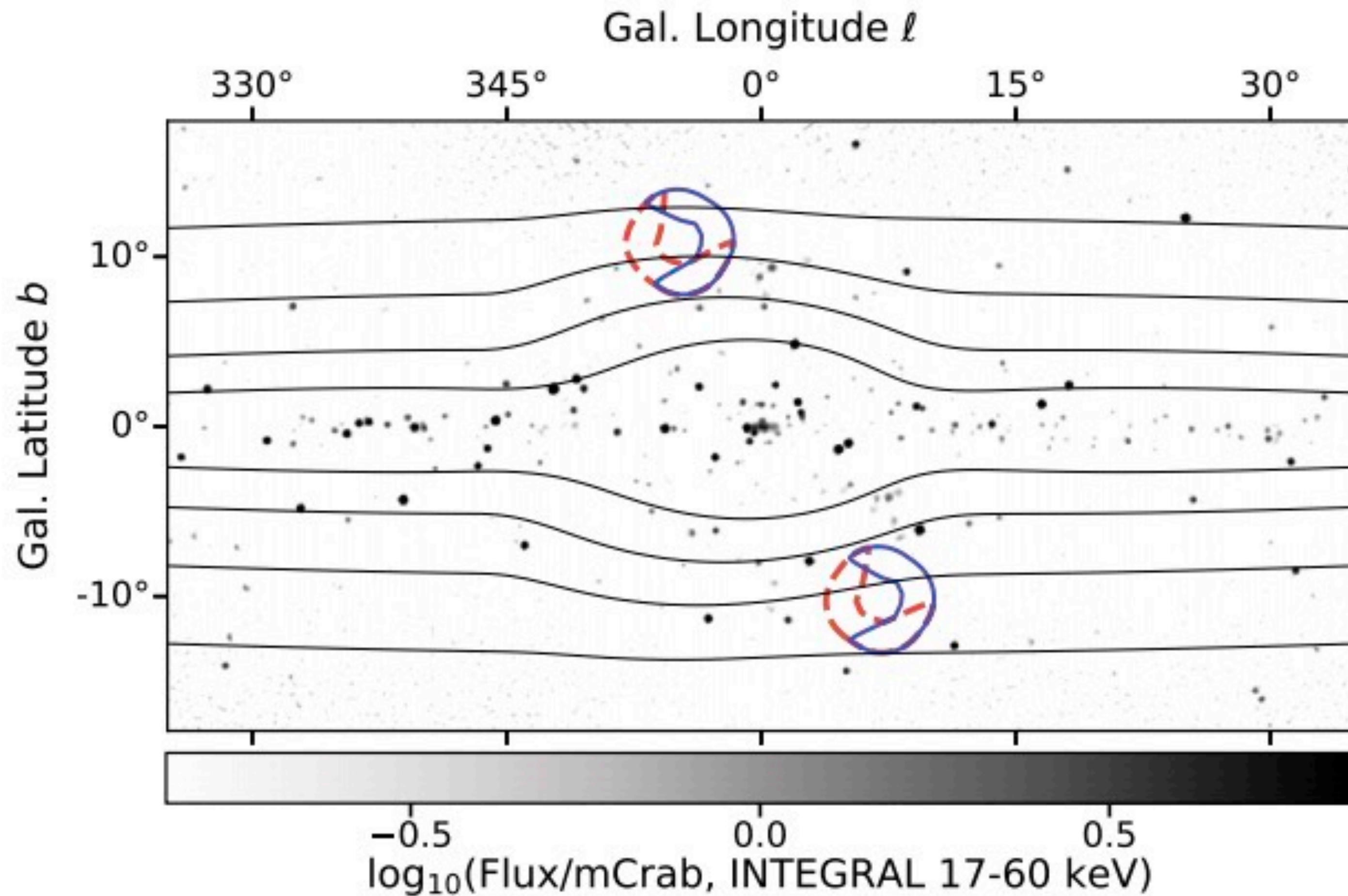
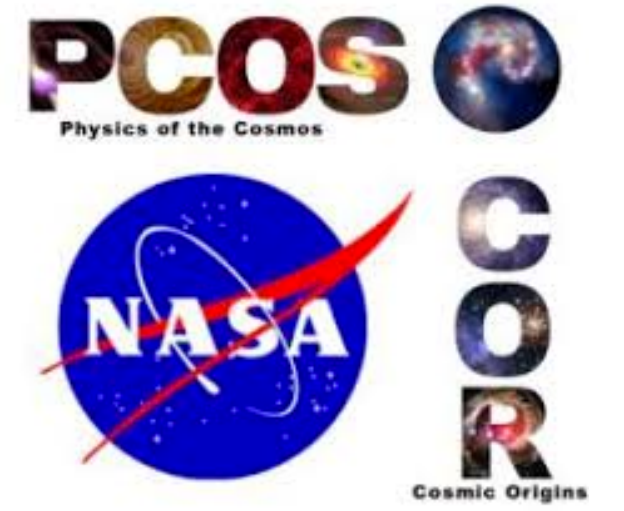


Chandra/XMM/NuSTAR: Carroll et al. (2021)

Mapping a major galaxy cluster merger at $z=1.2$

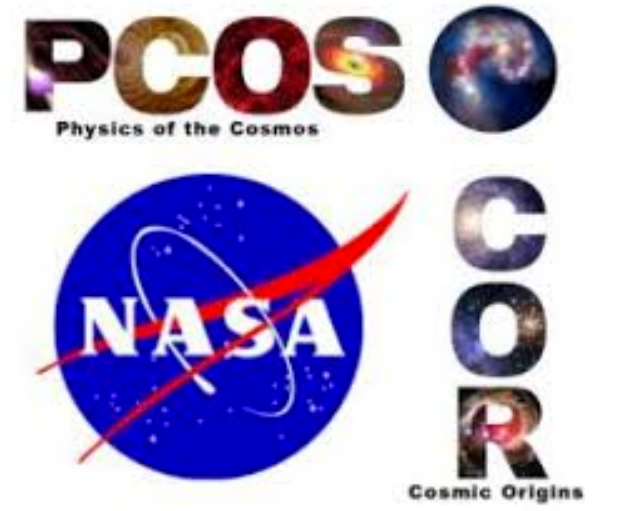


Limits on sterile neutrino dark matter with *NuSTAR*



NuSTAR: Roach et al. (2020)

Summary



X-ray astronomy continues to be a very exciting field that is a critical part of the multiwavelength landscape across all areas of astrophysics

The future is bright!

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Wednesday 6:50-8:20pm EST